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A COMPLETE
TREATISE ON PERFUMERY.

A

COMPLETE TREATISE ON PERFUMERY:

CONTAINING

NOTICES OF THE RAW MATERIAL USED IN THE ART, AND THE BEST FORMULÆ

FOR THE

FABRICATION OF POMADES, OILS, POWDERS, COSMETICS, PASTES, PAINTS,
DENTIFRICES, ESSENTIAL OILS, AROMATIC WATERS, INFUSIONS,
TINCTURES, SPIRITS, ALCOHOLATES, ARTIFICIAL FRUIT
ESSENCES, FUMING PASTILS, SACHETS,
CASSOLETTES, VINEGARS,
FANCY SOAPS,
PHARMACEUTICAL PRODUCTS MANUFACTURED BY THE PERFUMER, ETC.,

ACCORDING TO

THE BEST METHODS FOLLOWED IN FRANCE, ENGLAND, AND THE UNITED STATES.

BY M. P. PRADAL, PERFUMER CHEMIST, AND M. F. MALEPEYRE.

TRANSLATED FROM THE FRENCH,

WITH EXTENSIVE AND IMPORTANT ADDITIONS,

BY

PROF. H. DUSSAUCE, CHEMIST,

LATELY OF THE LABORATORIES OF THE FRENCH GOVERNMENT, VIZ., THE MINING, BOTANICAL
GARDEN, THE IMPERIAL MANUFACTURE OF THE GOBELINS, THE CONSERVATOIRE
IMPERIALE OF ARTS AND MANUFACTURES; PROFESSOR OF
INDUSTRIAL CHEMISTRY TO THE POLYTECHNIC
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EDITOR'S PREFACE.

The importance which is attached to perfumery, by reason of its very large consumption in the United States—a consumption constantly increasing, and never before so much as at the present moment—has rendered necessary extended instructions relative to its mode of manufacture. This treatise is, therefore, tendered to the American public with that view. It is presented both as a guide-book for the manufacturer, and as a protection to the purchaser against improper and deleterious compositions.

The knowledge which it conveys is reliable, and has been brought up to the present time, and covers every branch and subdivision of the art. It comprises authoritative recipes for all the fashionable preparations now imported from the Parisian, London, and Italian markets, and much other useful information; it is, in fact, a complete manual of instruction in the matters of which it treats.

The language of perfumery is, so to speak, almost exclusively French, and as the original designations are those by which the articles are usually known and called, that language has generally been adhered to in the expression of their names and titles throughout this volume.

New Lebanon, N. Y.,
March 15, 1864.

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COMPLETE TREATISE ON PERFUMERY.

SECTION I.

NATURE OF THE TRADE OF PERFUMER.

CHAPTER I.

PERFUMERY.

THE term *perfume* is used to designate only those volatile emanations of bodies which are usually considered agreeable; while the word *odor* has a more general signification, and applies to every scent without regard to its nature.

The appreciation of odors is due to the impression upon the seat of the sense of smell, of emanations from bodies, or of infinitesimal molecules of their substances which rise from their surface, impregnate the surrounding atmosphere, and, during inhalation, are brought into contact with the delicate and extensive membranes of the olfactory organs.

The tenuity of these molecules is so great that the bodies, whence they emanate, experience no perceptible loss by their disengagement, as experience has proved that a grain of musk gives out, in an area of five feet, 57,839,616 particles, without suffering any appreciable diminution of weight. In a more extended space, and by prolonging the exposure three months, the loss amounts only to an hundredth part.

The degree to which perfumes impregnate bodies varies with the nature of the latter; for example, they combine most readily with liquids, water and alcohol being excellent media for the extraction of the fragrant portions of plants. Oil is a retentive solvent of balsamic principles, and paper and cotton are very good vehicles for other kinds of perfume. In this variety of means for securing the fleeting aroma of substances, and confining it in a fixed form for the gratification of an important sense, there is always a choice; and the skill and industry employed in adapting each to its most appropriate service are the measure of the perfumer's merit.

This art derives much of its consistence from chemistry, and, therefore, those who pursue it should be familiar with the principles of that science which are applicable to their calling. Independently of an expert manipulation, a nice and discriminating taste in compounding the odoriferous substances, and in varying the gracefulness of their form, so as to render them acceptable to the tastes of beauty, and the caprices of fashion, are also indispensable.

As certain odors, by exciting the nerves, produce headache, and sometimes fainting, and others are even more destructive of health and comfort, it is necessary that the knowledge of the perfume should be sufficiently extensive to enable the perfumer to distinguish between such as are unpleasant or noxious, and those which are harmless and agreeable; and this power of discriminating should be supported by an integrity of purpose which will prevent the introduction to the toilet of any perfume not strictly unobjectionable.

The odors of substances which evolve *offensive effluvia*, carry with them, in their own repulsiveness, a protection against any prejudicial effect, for the wonderful instinct, in this respect, makes animals revolt at any scent which is discordant with their nice sense of smell. But the deleterious effects of some really fragrant perfumes are more insidious; perfumes, for example, which may be respired moderately with pleasure and impunity, become dangerous when inhaled in excess, and the intoxicating delight which they induce, renders it difficult to be moderate in the use of them. In close apartments, especially, they produce an enervating effect upon the human economy, and their use should, consequently, be excluded from boudoirs and sleeping chambers. Even the aromatic odors, which are employed frequently as stimulants, do not form exceptions to this rule.

Odors are classified according to their nature and their action upon the sense of smell, into nine distinct species, viz., *amber*, *sweet*, *aromatic*, *bitter*, *penetrating*, *unsavory*, *fetid*, *nauseous*, and *narcotic.*

1. AMBER, OR MUSKY, is widely diffused in nature, and is evolved by certain animals, and from many plants, such as the Musk seed, Geranium, etc. This odor is stimulating.

2. SWEET, OR TOILET, is furnished by all the sweet flowers, such as the Rose, Syringa, Pink, etc.

3. AROMATIC, OR TONIC, are numerous and various, and from their invigorating effects are much esteemed. They are the product of aromatic substances, such as Cloves, Nutmeg, etc.

4. BITTER, is very evident in Cherry-laurel, Peach tree, Rhubarb, and Bitter almonds. Substances which exhale this odor require to be prudently handled and used, as they contain Prussic acid, which is a virulent poison.

5. PENETRATING AND PUNGENT, as from Rue, Mustard-seed, Horseradish, and Camphor.

6. Unsavory, as those of the Onager, Yellow primrose, Barberry, etc.

7. Fetid, or Hircine, is emitted from the body of divers animals, such as the beaver, he-goat, etc., and from many plants, as the strong-scented Gnaphælium, etc.

8. Nauseous are generally evolved from emetic or purgative substances, and possess, in a subdued degree, the properties which the latter have of producing nausea, qualmishness, and sometimes vomiting; they are emitted from the Hellebore, Asarabacca, Bryony, Aloes, etc.

9. Narcotic, or soporific.—These odors, generally disagreeable, not only produce sleep, but torpify the nervous system, and when the economy is long exposed to their action, they occasion serious malady. The plants which emit them are Stramonium, Poppy, Tobacco, etc. etc.

CHAPTER II.

HISTORY OF PERFUMERY.

The knowledge of perfumes dates back to remote antiquity, and their annals comprise the history of the folly, luxury, and extravagance of past ages. The number of simple and compound substances employed as perfumes by the ancients is incalculable, and almost fabulous; indeed, so eminent was the esteem in which they were held, that the books written upon the subject by the Egyptians, Greeks, and Romans, almost constituted a library of themselves.

The origin of this art is lost in the *depth* of antiquity, though it has its rise, without doubt, in religious observances. Among the ancients, offering of perfumes was a token of respect and homage. *Incense* was burned in the temples of all religious sects, and many of the primitive Christians were put to death because they refused to offer incense to idols.

Gibbon (vol. i. chap. xii. page 104), in describing the amphitheatre of Rome, observes: "The air of the amphitheatre was continually refreshed by the playing of fountains, and profusely impregnated by the grateful scent of aromatics."

In the Catholic churches incense is used in many ceremonies, and particularly at solemn funerals. Pliny notices the tree from which the frankincense is procured, and several passages of his works indicate that dry flowers were used as perfume, and that they were mixed with spices for scenting apartments.

The Egyptian women used to carry about their persons a pouch of odoriferous gums, as it is the case at the present among the Chinese. Moses, in Genesis, mentions the *bdellium* or perfumed gum, resembling frankincense.

Many passages in the Bible prove the use of *perfumes* at a very early period among the Hebrews.

Horace, in an ode celebrating the return of Augustus from Spain, bids his slaves go and seek for perfumes, and desires Neaora to make haste and collect into a knot her scented hair.

Perfumes were used in church, not only under the form of incense, but also mixed in the oil and wax, for lamps and lights commanded to be burned in the house of the Lord.

Constantine the Great provided fragrant oils to be burned at the altars of the greater churches of Rome.

Gold, Frankincense, and Myrrh, are still presented on Twelfth day, at the Chapel Royal, in St. James' Palace, London. Formerly it was made by the King in person.

In accordance with an ancient custom, the Pope every year blesses what is called the golden rose; this flower, made of the purest gold and precious stones, is rubbed with balm and incense.

A perfume in common use, even to this day, was the invention of one of the earliest of the Roman nobles, named Frangipani, and still bears his name. It is a powder or sachet composed of every known spice in equal proportions, to which is added ground Orris or orris root, in weight equal to the whole, with one per cent. of Musk or Civet. A liquid of the same name, invented by his grandson Mercutio Frangipani, is prepared by digesting the Frangipani powder in rectified spirit, which dissolves the fragrant principles.

The celebrated Brummell used to say that no man of fashion should use perfumery, but send his linen to be washed and dried on Hampstead Heath. The use of aromatics in the East may be dated from the remotest antiquity, and even at the present day, to sprinkle guests with rose-water and perfumes, then with aloes wood at the close of every visit, is deemed a token of friendship. In the tales called the *Arabian Nights*, there will be found several passages indicating the uses of perfumes; in the story of *the Barber's second brother*, we see him with *his eyebrows painted like a woman, and was then perfumed with Aloes wood and Rose-water.* Arabia is the country of perfumes, and in more ancient times it was the practice to keep them in shells. Perfumes were also thought to keep well in vessels made of alabaster. Pliny explains the shape of these vessels by comparing them to the pearls called *elenchi*, which are known to be shaped like pears. In hot climates, fragrant oils dispersed unpleasant odors, which heat is apt to generate, and thus become essential to the enjoyment of social life. The poets of Greece and Rome were loud in the praise of perfumes. The magic power of Medea consisted in her skill as a perfumer and inventress of warm water baths. She was the first who discovered a flower which could make the color of the hair black or white. She used fomentations in her baths in secret.

These practices were not confined to oriental nations alone, for Herodotus says: The Scythian women bruise under a stone, wood of the cypress, cedar, and frankincense; upon this they pour water till it becomes of a certain consistency, with which they anoint the body and the face. This at the time imparts an agreeable odor, and when removed on the following day gives the skin a soft and beautiful appearance.

Some porcelain jars were found in the adjacent ruins to the Pyramids, which contained cosmetics and perfumes 3 to 4000 years old; these jars bore Chinese inscriptions, the same which have been traced among the Chinese poets of about the earlier period.

In the *Lives of the Queens of England* we read: "Perfumes were never richer, more elaborate, more costly, or more delicate than in the reign of Elizabeth." Perfumes and cosmetics of all kinds were in general use. The cosmetic and other small accessories were kept in boxes strongly impregnated with some favorite odor, and were called *sweet coffers*. The bottles of perfume connected with the common labors of the toilet, were called *casting bottles*.

Perfumed gloves were fashionable, and Elizabeth had a cloak of Spanish perfumed leather, the value of which may be estimated by stating that pieces of *Peau d'Espagne* are sold now in London at the rate of one shilling the square inch.

Mehul, in his *Progress of Queen Elizabeth*, mentions that at Hawkstead, among the rooms on the ground floor was one called the *still-room*, an apartment where ladies of the court amused themselves in distilling fragrant waters.

In the *Northumberland Household Book* there appears the following list of plants: roses, borage, fumitory, brakes, columbynes, oak leaves, hart's tongue, dragon, parsley, balm, walnut leaves, etc., all for the use of the still-room.

In the reign of Louis XV. the ladies at court indulged most freely in the use of perfumes, and fashion ordained an ever-varying routine; so that the royal apartments were one day fragrant with the scent of tuberose, and the next with that of amber and cloves; and so on consecutively, each succeeding day bringing a change of the reigning odor.

The voluptuous satraps of Asia abide in an atmosphere redolent with perfumes. The bougies which illuminate their sumptuous palaces diffuse, in burning, the most delicious odors; and ornamental fountains in the centre of the apartments emit a constant flow of fragrant waters.

In our day, perfumery is a staple article of commerce. Its use is no longer confined to the rich. The extravagant habit pervades all classes and all communities. Germany, Spain, Portugal, and Turkey are its liberal patrons. England, besides being a large customer, derives a profitable revenue from the exportation of an excessive stock; whilst France, the great bazaar and fashionable depot for the products of this art, in all their perfection, regarding them as necessaries of life, not only absorbs immense quantities within her own domain, but scatters an extensive surplus throughout other lands.

In the United States the use of perfumery is general. The prosperity of the people at large has placed a certain amount of luxury within the reach and means of all, and so widespread is the taste, that the annual sale in Philadelphia, exceeds $800,000. The *ton* confine themselves to the fragrant aristocratic extracts and veritable *Farina*, while the less fashionable and wealthy consume the more economical articles; so that the pomade of the fashionable belle becomes, in this gradation, the *bear's grease* of the kitchen maid. Indeed no boudoir is complete without its stock of perfumery.

CHAPTER III.

FLOWER FARMING STATISTICS.

The extensive flower farms in the neighborhood of Nice, Montpellier, Nismes, Grasse, and Cannes, in France; at Adrianople (European Turkey); at Broussa, and Uslak (Asiatic Turkey); at Gazepore, India, and at Mitcham and Hitchin, in England, in a measure indicate the commercial importance of that branch of chemistry called perfumery.

British India and Europe consume annually, at the very lowest estimate, 150,000 gallons of perfumed spirits, under various names, such as the Hungary water, Essence of lavender, esprit de rose, etc. The art of perfumery does not, however, confine itself to the production of scents for the handkerchief and bath, but extends to imparting odors to inodorous bodies, such as soap, oil, starch, and grease. Some idea of the commercial importance of this art may be formed when we state that one of the large perfumers of Cannes, M. Herman, employs annually 140,000 lbs. of orange flowers, 12,000 lbs. of cassia flowers, 140,000 lbs. of rose leaves, 32,000 lbs. of jasmine blossoms, 20,000 lbs. of violets, 9,000 lbs. of tubereuse, 16,000 lbs. of cassia, besides rosemary, mint, lemon, citron, thyme, and other odorous plants in larger proportions. In fact, the quantity of odoriferous substances used in this way is far beyond the conception of those even used to statistics.

30,000 *jasmine* plants occupy an area of land equivalent to about one-third of an acre, and produce during the entire season 2,187 lbs. of flowers.

5,000 *rose tree* plants occupy nearly one-half an acre, and produce 2,200 lbs. of rose flowers during the season.

100 *orange trees* at the age of ten years occupy one acre, and produce during the season 2,187 lbs. of orange flowers.

3,200 *geranium* plants occupy one-quarter of an acre of land, and produce 8,748 lbs. of flowers.

One and a quarter of an acre of land planted with *violets* will produce 2,187 lbs. of flowers.

70,000 *tuberose roots* require one-quarter of an acre of land, and produce 2,187 lbs. of flowers.

The annual produce of violet flowers, at Nice and at Cannes, amounts to 54,687 lbs. (Grasse does not produce violets), the annual manufacture of which into oils and pomades is 26,350 lbs. If, however, the produce furnished by the different manufacturers were genuine they would not be able to produce more than 13,125 lbs. of the essence in its pure state from the quantity of flowers just mentioned. Nice produced 437,500 lbs. of orange flowers annually.

The produce of orange flowers at Cannes and adjacent villages, is 929,687 lbs.; these are of a much superior quality, and in every way better adapted for manufacture than those of Nice, which are fit only for distillation.

2,187 lbs. of orange flowers produce 27 ounces of pure neroli; 1,312 lbs. of orange-flower leaves produce 35 ounces of pure petit grain.

Cannes produces annually from 35,000 to 40,000 lbs. of cassia flowers. It may be remarked that the cassia flower is a product which belongs exclusively to the soil of Cannes, as the tree which produces it will not grow to perfection at Nice or at Grasse. The last named locality is also deficient in the production of orange trees; these are obtained only from Cannes for the manufacture of pomades, and from Nice for distillation.

The flowers employed in the manufacture of perfumery, such as the rose, the jasmine, and the tuberose, are not so generally cultivated at Grasse and at Cannes.

The annual product of Grasse and Cannes, and of the adjacent villages, is 87,500 lbs. of rose, 109,375 lbs. of jasmine, and 21,875 lbs. of tuberose.

According to the quantity of orange flowers stated to be produced at Grasse, Cannes, and Nice, not more than 101,718 lbs. of orange-flower water can be either manufactured or distilled in a pure state, with the quantity of orange flowers supplied to the distillers by the manufacturers of pomades; whereas, the adulteration of this article is so great, that upwards of 2,187,500 lbs. of spurious orange water are exported. It is, therefore, highly important that the distillation of these flowers should be subject to a strict surveillance.

This abuse may be remedied either by the institution of a commission for that purpose at Cannes, or by the appointment of an inspector, whose office it shall be to examine the distilled waters at the moment they leave the distiller's, and who shall be empowered to punish severely in cases in which leaf water, or any other fraudulent mixture may be sold by him under the name of orange-flower water.

Grasse and Cannes manufacture annually—

328,125 lbs. of pomades and scented oils,
547 " pure otto of neroli,
984 " " " petit grain,
8,750 " " " lavender,
2,187 " " Roman essence,
1,187 " " otto of thyme.

The otto of neroli and petit grain produced at Cannes are far superior in quality to those produced at Grasse; the reason for this difference is obvious, for as Grasse does not produce the flowers which are most generally used in the manufacture of perfumery, and can obtain them from Cannes only, a long time must necessarily elapse between the time of gathering them and that of their manufacture; added to which, also, their conveyance during the heat of summer is at all times detrimental.

It would be advantageous to the manufacturer and also to the consumer, if the flowers were consumed in the locality in which they are produced, in order that they might be obtained as fresh as possible. It is for this object that Cannes has witnessed the erection of a large perfumery establishment in the middle of the gardens of Mr. Herman, who, by the superiority of his products, has gained a great popularity. This establishment manufactures, annually, from 83,125 to 87,500 lbs. of pomades and scented oils.

CHAPTER IV.

THE TRADE OF PERFUMER.

There are three distinct classes—the *manufacturer*, the *merchant*, and the *trader* or *retailer* of perfumery; to each of which this work addresses useful information.

The manufacturer of perfumery has greater facilities for pursuing his art, either in large cities, where there is always a favorite market for his products, or in those places where the plants, required in this branch of fabrication, are indigenous and readily to be obtained. For instance, Paris consumes largely of perfumery, besides being an extensive export market; whilst Greece and Italy afford abundant harvests of flowers.

There are manufactured different qualities of perfumery; the best and most elegantly embellished is consigned to cities, whilst the ordinary and inferior kinds, deficient in costly wrappings and trimmings, are sent to the smaller traders in lesser towns, or disposed of to peddlers.

Another class, embracing all the expensive preparations, choicest perfumes, and rich accessories, is represented at the fashionable bazaar of *Houbigant*, whose preeminence, as to correct taste in his professional and strict compliance with the vagaries of fashion, has attained for him an enviable success.

The third class, uniting the three others, exhibits itself in the manufactures of Laugier, Pivert of Paris, Bazin and Hauel of Philadelphia, etc. In their vast warehouses are packed all kinds and styles of perfumery, from the plain delftware pot of simple pomade, to the brilliant flagons and porcelain cases, of innumerable designs, richly embellished, and well filled with perfumes of exquisite and multifarious odors.

To insure success in this business there are requisite, talents, great activity, and considerable capital. Each manufacturer issues a list of his products, with the wholesale prices annexed, as a guide to the retailer, who heretofore, and still, by an arbitrary rule of general practice, as his profit makes an exorbitant addition to the original cost of one hundred per cent. It would be better policy to reduce the unreasonable charges, and rely upon an extended sale to compensate for the diminution of profit.

CHAPTER V.

LABORATORY.

A LARGE space is requisite for this branch of industry. 1st. There should be a reception-house, or store-room for the flowers, perfumes, and raw material generally—the whole to be arranged in proper order. 2d. A main laboratory building, or room in which to prepare the oils and pomades, and distil the spirits. 3d. A second laboratory for the manufacture of the soaps. 4th. An apartment in which to put up, label, and wrap the different articles of manufacture—this room serving also as the warehouse. 5th. A store for the display of samples and sale of the stock, not necessarily as stylish as the shops of some of the perfumers, but still tastefully and conveniently arranged.

The Tools of the Perfumer.—These instruments are in some measure similar to those used in many other branches of manufacture. There are three series: 1st, those used in the manufacture of pomades and oils; 2d, those employed for distillation; 3d, those wrought with in the making of soaps.

For the pomades and perfumed oils, there are required cleavers and blocks with which to mince the fats, mortars and pestles of iron for rubbing them up, caldrons in which to melt, ladles to skim, and sieves of horsehair, canvas, or very fine iron wire, through which to strain, a *bugadier* or macerating vessel for the *pomades infusées* (this vessel should be sufficiently large to contain 500 pounds of melted fat, and 150 pounds of flowers), a press, a copper gutter therefor, and some pieces of canvas for enveloping the *marc*, whilst being pressed.

For the pomades made without infusion, there is required a frame, composed of four pieces of wood tightly fitted together. In this frame is a glass, upon which the pomade is spread out with a spatula.

There should be a large number of this useful apparatus. When filled, they are piled one upon the other; the top layer is to be covered, to prevent the action of the atmosphere.

No special utensil is required for the perfumed oils to be made by infusion; when, however, a *small* quantity is to be prepared by the process of *enfleurage*, it is well to have one or more frames of iron stretched over with pieces of muslin soaked with oil, and afterwards covered with flowers. In the opposite case, it is necessary to use the following arrangement—that is, an ordinary wooden box, of one and a half feet length, the same breadth, and from one to two feet in height, according to the number of frames it is to receive, with an opening at the side through which to introduce them. This box must be lined with tinned iron. The frames to be placed in this chest or box, are of wood, one inch in thickness, or of iron, and consequently much lighter. They are to be arranged at intervals of two inches from each other. If this operation seems too tedious, then substitute plates of tin, pierced with numberless holes, and stretched over with cloths of *white* cotton, three or four folds in thickness, as may be necessary. At the bottom of the box is a shallow tin drawer, to receive the oil dripping through the cloths, and so fixed as to be easily removable when the side is opened. To prevent the evaporation and waste of the perfumes, there is adapted to this box a tightly-fitting cover lined with tin.

Apparatus for the Manufacture of Almond Paste and Oils by Expression.—This branch requires sieves to separate the almonds from dust and foreign matters, a mill to reduce them, and bags in which to inclose the ground mass for pressure. Sometimes the bags are replaced by round or square buckets or vessels, pierced through their circumference to facilitate the flowing off of the oil, and in which the mass is submitted to the action of a sufficiently powerful press. To simplify and improve the work as much as possible, the almonds intended for pastes are sometimes scalded, put into a large basket, and drained, thence spread upon hair-sieves or frames to dry, then passed through the mill, and afterwards pressed—the remainder of the process being as before mentioned.

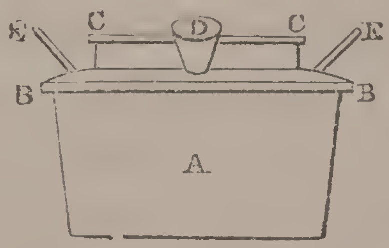
For the liquid almond pastes, it is necessary to have a mill resembling those for preparing the vinegaretted mustard paste, or *moutarde des vinaigriers.*

INSTRUMENTS FOR DISTILLATION.—Distillation is the most important and interesting branch of the perfumer's art, as, by its assistance, the different essences, spirituous scents, essential oils, fragrant waters, eau de Cologne, and the vinegars are made.

The chief utensil is the alembic or still, a vessel of tin or tinned copper, and sometimes of glass. Among the many arts in which alembics are used, no one more frequently requires those of glass than that of the perfumer. This is owing to the volatility of much of the material to be distilled, and the consequent care and nicety requisite in the operation.

The alembic (Fig. 1) consists of three distinct and separate parts—the *body*, the *head*, and the *cooler*.

Fig. 1.

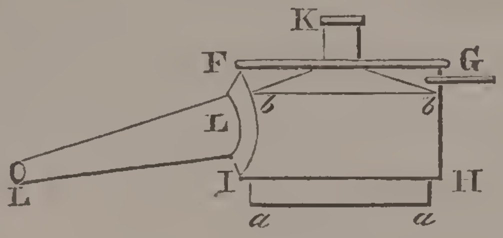


A exhibits the first, which is nothing more than a kettle in the shape of an inverted truncated cone. It is walled up in brick and mortar, the flange *B B* resting on the furnace, and serving to hold the body firmly in its bed. It is generally of equal breadth and depth, with a bottom inwardly convex, so as to give greater heating surface, and a neck *C C* converging towards its opening. On this neck are placed a socket *D*, and the two handles *E E*.

The capital or head (Fig. 2) of the still is made of tinned copper for larger vessels, and of tin or pewter for smaller apparatus. It is cylindrical, terminating in a spherical hood or cup.

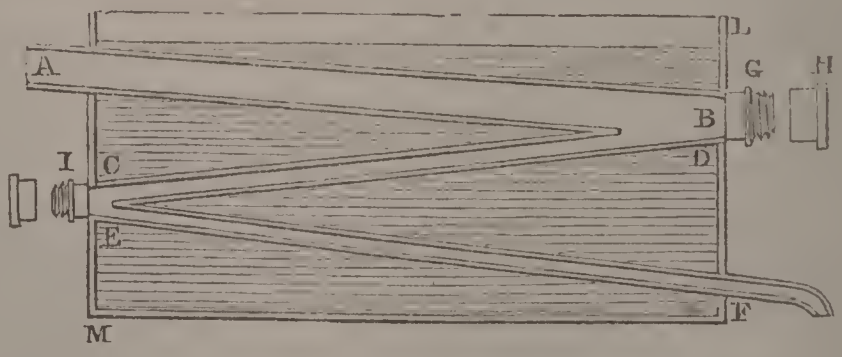
F G H I is the cylindrical part, with a neck *a a* affixed beneath, and so made as to fit nicely into the opening *C C* of the still (Fig. 1). The extreme top is soldered at *b b*, a little below the superior edge of the cylinder. In the centre of this head is a socket *K*, and in the side is soldered a slightly conical pipe *L L*, called the *beak* of the alembic.

Fig. 2.



The materials for distillation are put into the body, the head placed on, nicely adjusted and well luted, and the fire kindled in the furnace. By the action of the heat, the volatile parts are disengaged in vapor, and collect in the capital, from whence they pass through the beak into the cooler or third piece, where they are refrigerated and condensed—hence its name. This refrigerant is of various forms. Sometimes a tube extended to some length; then, again, it is spiral, and takes the title of *worm;* but this shape renders its cleansing difficult. Here, below, is a condensing apparatus, economical, convenient, and simple.

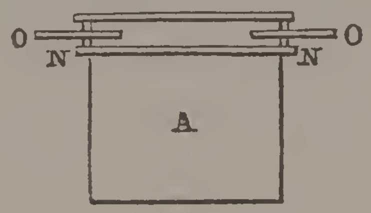
Fig. 3.



It consists of three cylindrical tubes, *A B C D E F*, each three feet long, and soldered one to the other, so as to form a continued connection. The first is conical at *A*, for the reception of the beak of the still, together with which it is luted: at *B* it is soldered to the end of the second tube *D*, forming a nozzle. These two joined together are soldered to a cylindrical copper ferule *G*, having a screw at its extremity, and covered with a stopper *H*, cut with a corresponding screw, and fixed together with intervening leather washers, so as to insure a hermetical jointure of the two tubes simultaneously. The tubes *C D* and *E F* are similarly adjusted. The whole apparatus is fixed, at the points *A G I F*, in a bath *L M*, which is filled with cold water constantly renewed, during distillation, by the entrance of fresh water at the bottom, which drives off, through a tube, the water which becomes heated, and then always occupying the uppermost part of the bath. The modus operandi of this apparatus is easily explained. The vapors enter into the large tube *A B*, and are there condensed and run off slowly in liquid form, into the slightly-inclined tube *D C*, and from that again into *E F*, and, as they are continually in contact with cold water, the liquid soon cools to the temperature of the atmosphere, and falls into the receiver through the tube *F*. If six feet of passage-pipe should be insufficient to cool the liquor, the apparatus can be enlarged by merely increasing the number of tubes. It is not requisite that the breadth of the bath *L M* should be great; for instance, supposing the diameter of the tube *A B* at three inches, then seven or eight inches width are sufficient for the continuous renewal of the water. This bath is of wood, lined with zinc or copper. The connections of the tubes are such as to allow their cleansing at pleasure, by rubbing the interior with hair brushes and water, until all smell is removed. At the bottom of the bath is conveniently placed a stopcock, through which to let off the water, after the completion of the distillation.

The Water-Bath.—This most useful fixture for distilling very volatile substances enables the perfumer to regulate his temperature so as not to exceed 212° F.

Fig. 4.

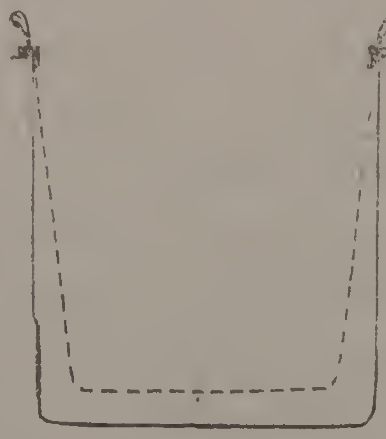


It is a movable cylindrical vessel of tin, or tinned copper, fitting and sitting in the aperture *C C* of the still *A* (Fig. 1), and resting therein by its collar or flange *N N*, so that its bottom does not reach that of the cucurbit. It is placed in and taken out by the handles *O O*. The neck *aa* of the capital is made so as to be used to the still, either with or without the bath.

Fig. 5 exhibits a water-bath complete, the inner vessel represented by dotted lines being the recipient for the materials, and the outer jacket, the water-holder or heating medium.

The mode of operating by this latter plan is to place the selected materials in the kettle, lute on its head, and through the socket *D* (Fig. 1), pour in the water. The

Fig. 5.

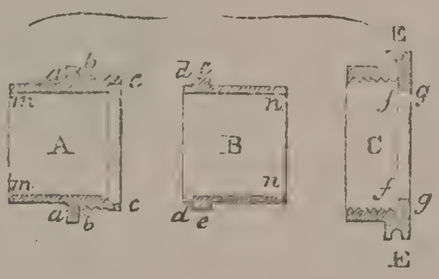


top of the capital being externally concave, is filled with a layer of powdered charcoal, which, as a bad conductor of heat, prevents the condensation of the vapors in that part of the head, and their consequent falling back into the still.

Fitting of the Tubes.—In most instances it answers to lute the joints with a mixture of powdered quicklime and the white of eggs, or solution of glue, and then to cover these joints with pieces of cloth smeared over with the same mixture, a little more diluted with glue solution. But this mode is not always suitable, for in large operations especially, other means guaranteeing more security must be employed, and such are shown by Fig. 6.

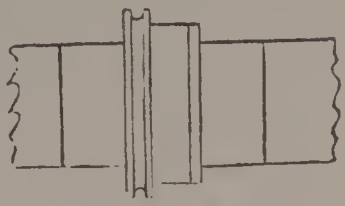
These three pieces, *A B C*, are called ties or knuckles. The first has a collar or flange *a a* upon which is placed a leather ring: the part *b b* is screw cut and fitted into *c c* to receive the neck *d d* of the piece *B*. This piece has a collar or flange *e e* that supports the whole part *g g* of the piece *C*, which, by means of its interior screw *f f*, fitted to the exterior screw *b b*, firmly fixes the intermediate piece *B*. One of the tubes to be fitted is soldered interiorly to the piece *A* at *m m*, the other similarly fixed to *B* at *n n*, and the ring *C* loosely run upon the last tube. When the two tubes are brought together, so that the neck fits to the groove *C*, the ring being screwed up by turning *E E*, they are then accurately and firmly fastened.

Fig. 6.



The figure below exhibits this fastening or coupling screw fitted together.

Fig. 7.



Distillation by Steam.—This mode of distillation is particularly applicable for making distilled water from leaves, flowers, roots, and similar substances, and the form of apparatus most convenient for it is shown by Fig. 8. It consists of a tinned copper body and head, of the form represented by the drawing, with a perforated false bottom *b*, Fig. 9, which serves as a platform for the support of the charge of leaves or material. The steam is introduced through the pipe *a* beneath the platform, and passing over through the beaker into the condenser, carries

Fig. 8.

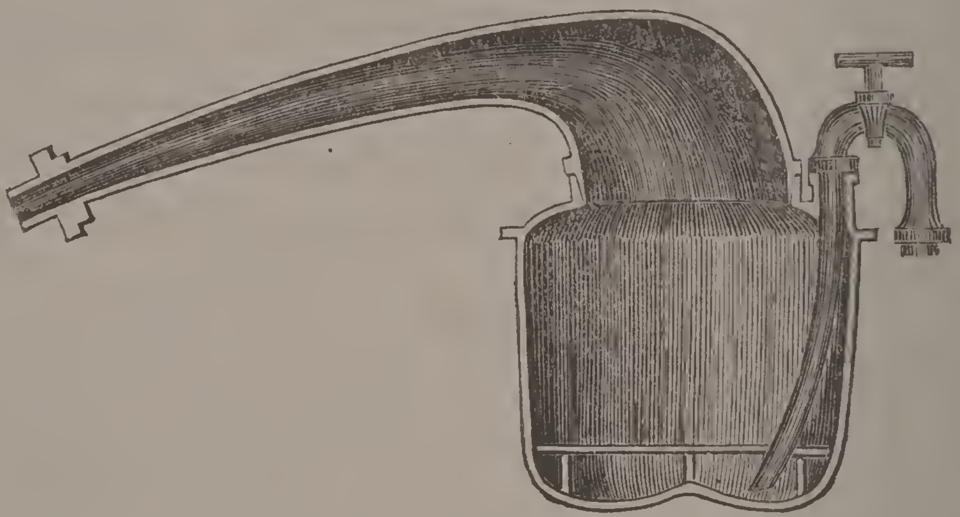
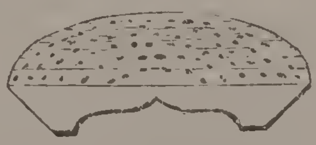
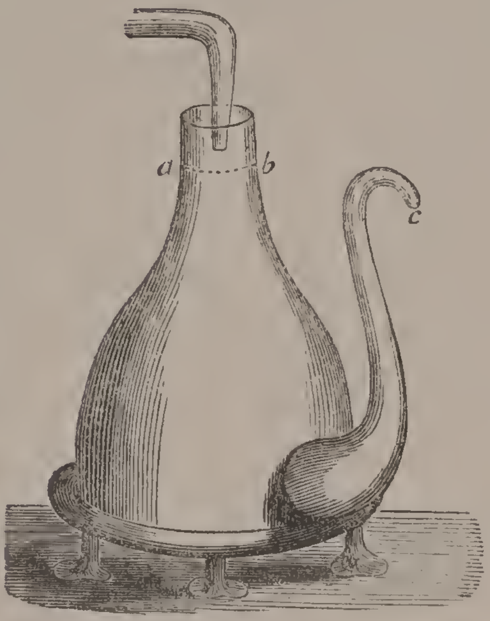


Fig. 9.



along the oil which it takes up during its transit through the still, and deposits it in the Florentine glass receiver, Fig. 10. The beak *c* is adjusted and luted to the condenser, Fig. 3.

Fig. 10.



Glass Alembics and Retorts.—To procure liquors of a very delicate perfume, recourse is had to rectification, that is, redistillation of the liquid already distilled, and for this purpose the water or sand-bath is necessary. For the preparation of the vinegars, the acid properties of which are so corrosive of copper, it is always better to use glass or stoneware vessels.

Glass retorts, as shown by Figs. 11 and 12, when of large size, are generally tubulated, that is, provided with a stoppered tube at the top of the arch or bend, so as to render their refilling practicable and easy, without moving them from their beds.

Fig. 11.

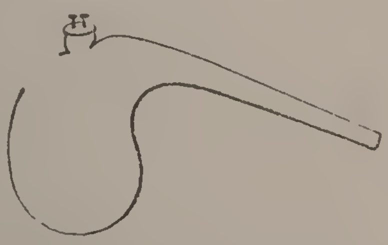
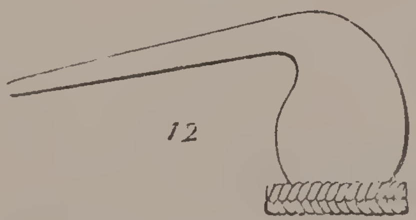


Fig. 12.

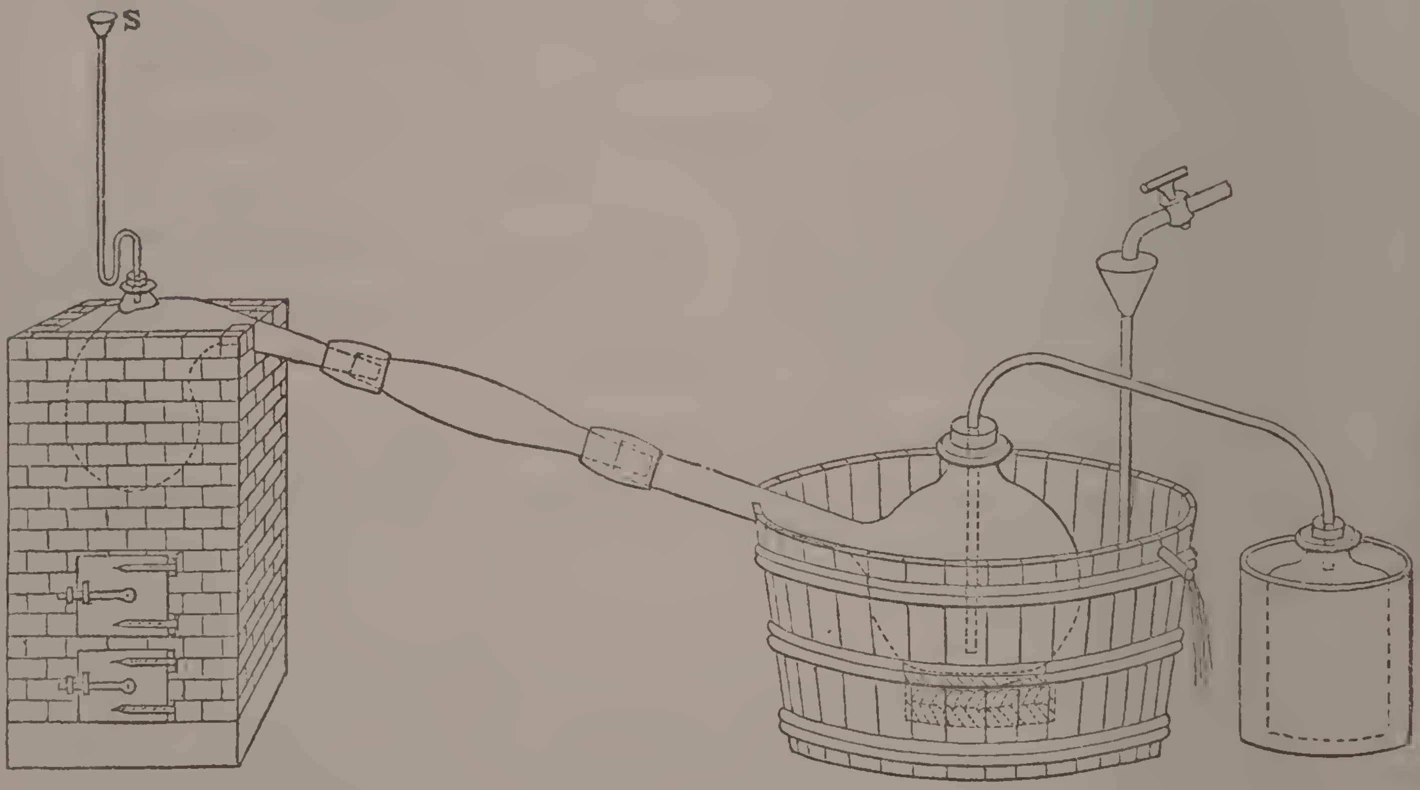


The liquid may either be put in all at once through a funnel, or in detached proportions, and gradually, by means of a tube at *S* (Fig. 13), adapted to the opening, and, at the same time, serving as a safety-tube. To give more length to the beak of the retort, there is sometimes added and affixed thereto a glass tube, open at both ends, and bulging in the centre, as shown at Fig. 13.

Apparatus for Perfumed Soaps.—The principal utensils, requisite for the manufacture of soap, are the lye-tubs and reservoirs for making and receiving the lyes, the kettles in which to compose and boil the ingredients of the soap, and the frames for cooling the paste.

The lyes for toilet-soaps must be perfectly colorless and clear, and the vessel in which they are leeched should be of a material upon which they have no action.

Fig. 13.



White wood answering for most purposes, communicates to the lyes a brownish-yellow tint, very prejudicial to the whiteness of the soaps. It is better to use iron-bound brandy-pipes, lined with lead. Their cost is much less than wooden vats of equal capacity; and several months' exposure of the lyes therein scarcely suffices to give, with the most sensitive reagents, any proof of the presence of lead. The lyes, even after several days' standing in these vessels, are white, clear, and suitable for very fine soaps, besides having retained more of their causticity. These vats last much longer, and even when worn out, still possess an intrinsic value, as old lead, whereas those of wood, after a brief use, are entirely worthless.

The kettles should be of iron plate, for other material would be unsuitable. Those of copper oxidize easily at the commencement of the saponification; and those of cast-iron, though economical in price, being brittle and readily broken, the cold lye frequently produces a sudden and unequal expansion of parts of the vessel, and causes it to crack. With precaution, however, this danger can be avoided, as is the case in England, where the cast-iron kettles are in vogue. France gives the preference to iron-plate, as nearly all the soap-boilers there construct their boiling-kettles of that material.

For the fusion of those soaps which are to form the basis or body of the toilet-soaps, it is nevertheless proper to use an untinned copper kettle.

The preparation of the flotant soaps requires a copper kettle heated by a water-bath, and provided with the following apparatus:—

At the centre of the bottom is fixed a pivot upon which is placed a wooden beam, with wings or paddles at its circumference, fitted perpendicularly to its axis, and turned by means of a crank arranged at the top.

An ordinary plane is requisite to reduce the soap to shavings.

The frames are square basins, of circumference proportional to their depth, and are recipients of the soap after it has been boiled, and is ladled out to cool. Sometimes they are divided off by transverse partitions of wood grooved into the sides. In the sides, too, and near the bottom, are openings through which to run off the lye, when it is necessary to give it issue; but, for the most part, with toilet soaps, this arrangement is useless, for they do not drop any of their lye. Then the frames which, for the first, are constructed of well-jointed slabs, are for the latter made of plank at the side, and bricked at the bottom. To prevent an adherence, and the consequently difficult removal of the soap, this bottom is sprinkled with slaked and sifted lime.

Fig. 14.

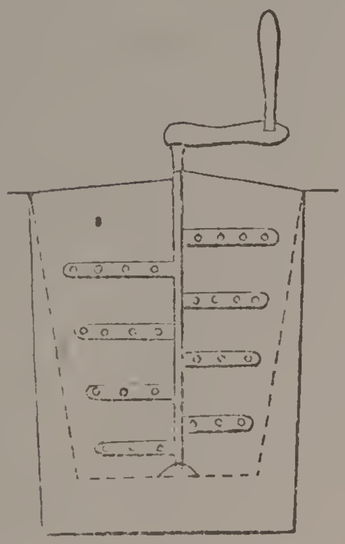
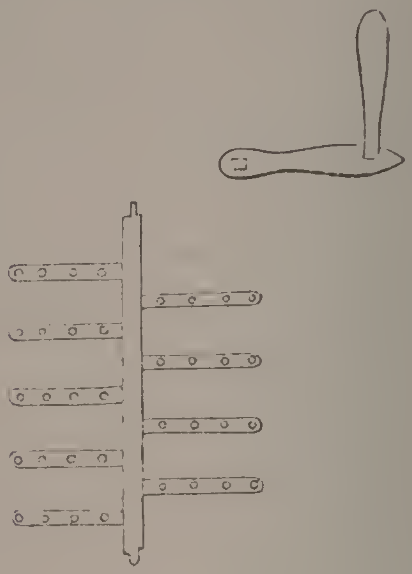


Fig. 15.



The temperature of the rooms in which the frames are placed should be so regulated as to prevent either a too rapid drying in summer, or a too slow in winter. The sizes of the bars into which the mass of soap is to be divided, are marked out with a scribe upon its surface; these bars are again in their turn subdivided into forms and shapes as desired.

The dimensions of the bars or loaves of soap into which the mass is first divided, are about three inches in thickness, and nine inches in width. The size, however, varies, but in all cases should be so regulated as to give subdivisions into a number of usual-sized tablets, without wastage by trimmings.

Below are given illustrations of several pieces of necessary apparatus.

Fig. 16. A rammer, for crushing the soda to be used for making the lye.

Fig. 16.

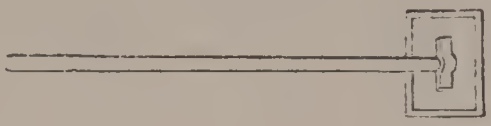


Fig. 17. A vessel for throwing water upon the lime.

Fig. 17.

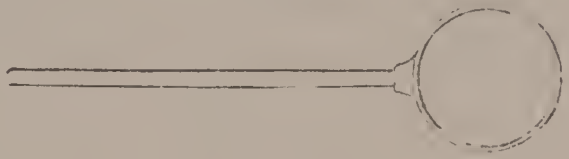


Fig. 18. A spade for mixing the soda with the lime, and for emptying and cleansing the vats.

Fig. 18.

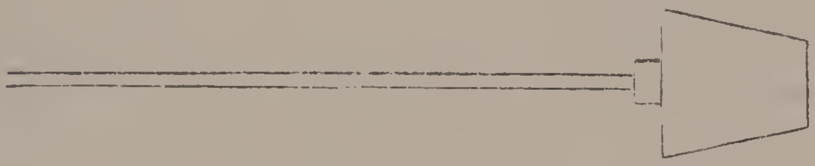


Fig. 19. A bucket, in which to transfer the lyes from the reservoirs into the kettles.

Fig. 19.

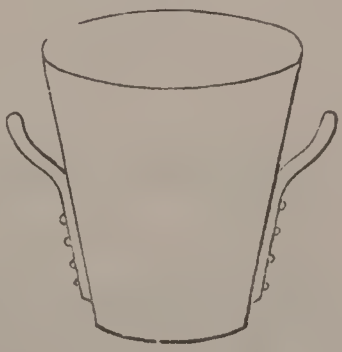


Fig. 20. A vessel with a long handle, for lifting the soap-paste from the kettle.

Fig. 20.

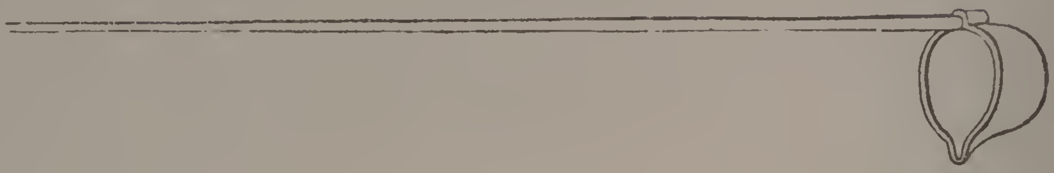


Fig. 21. A walnut board, pierced through, and having a long handle, and used for mottling and liquefaction.

Fig. 21.

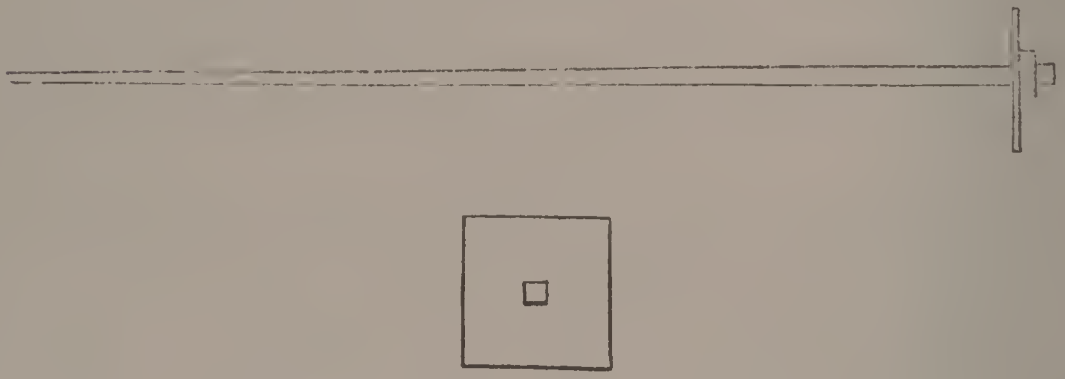


Fig. 22. A shovel to remove the block of soap from the frames.

Fig. 23. A *dentier*, a tooth-shaped instrument for subdividing the blocks into bars.

Figs. 22, 23.

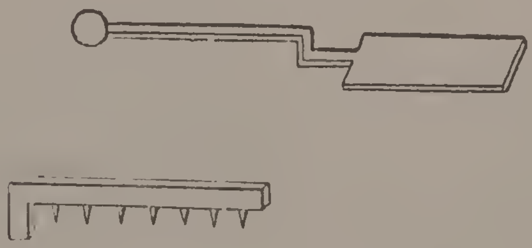
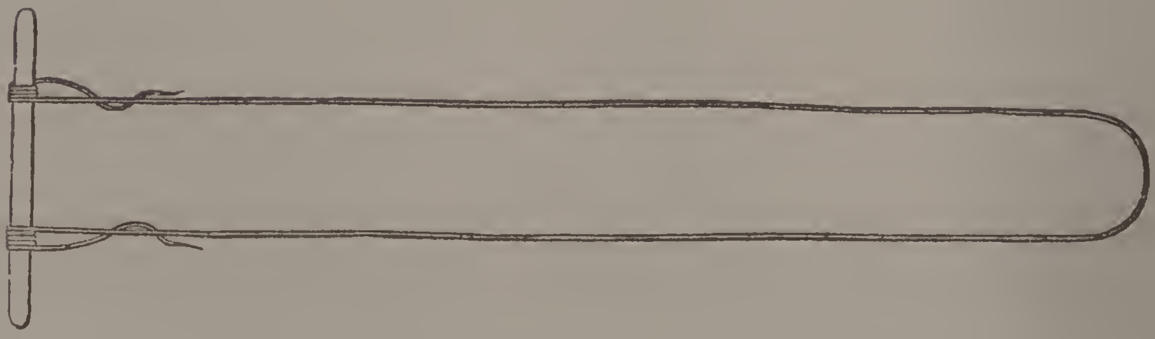


Fig. 24. A *tirette*, or round piece of wood, at each end

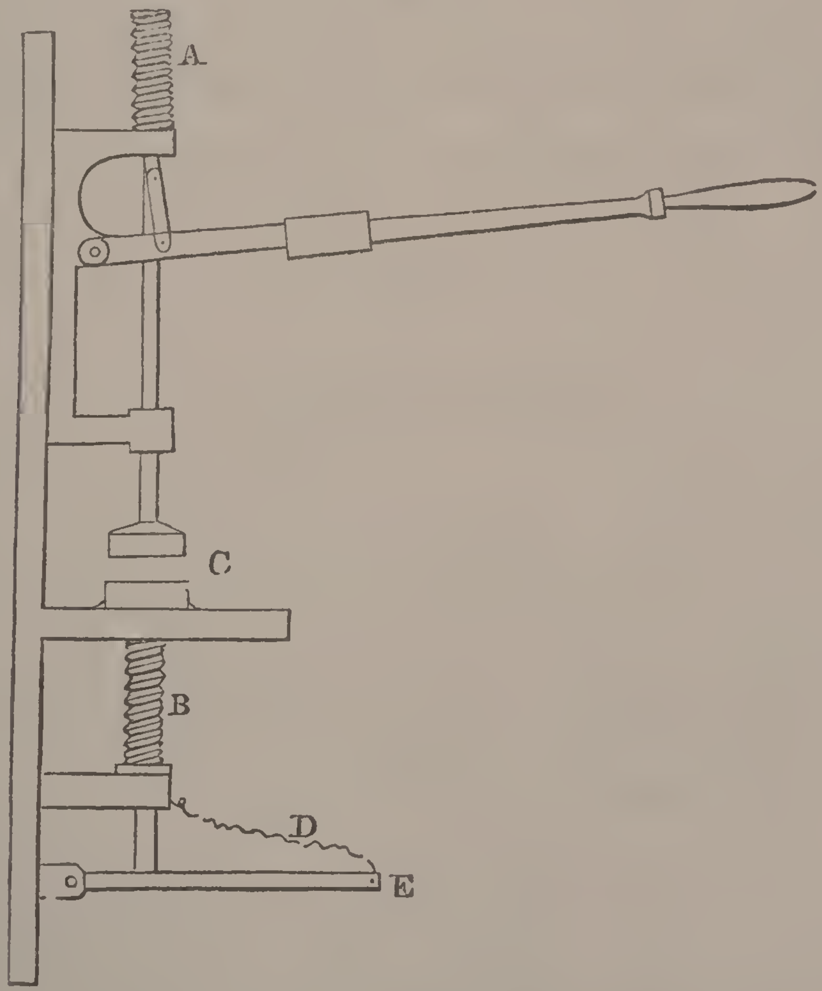
Fig. 24.



of which is an iron wire, for the division of the bars into tablets or cakes.

In addition to the foregoing furniture, it is requisite to have a press of proper construction, with an accompanying assortment of dies, formed and cut to taste, with which to ornament the cakes by impressions in relief, or otherwise. Below is the figure of one of approved construction, the spiral springs *A B* permitting the ejection of the soap from the form, immediately after being impressed; whilst the box, or form *C*, containing the dies, being movable, is easily fitted with new devices, when a change is desired. These dies are made of any pattern by most of the experienced mould-makers. The string *D* is merely to hold up the bar *E*, which is used for pushing up the die which is to be cleansed or changed.

Fig. 25.



The designs for dies vary with the taste of the manufacturer.

SECTION II.

RAW MATERIAL.

It is not intended to treat of all the substances used by the perfumer, for such would be an endless and useless task, there being no occasion for a description of flowers or fruits, the properties of which are almost universally known. But there is, nevertheless, information necessary as to the choice of raw materials, their gathering, preservation, etc., for upon a correct knowledge of such matters, depend much of the economy and success of the business. That the instruction may be complete and systematic, those substances of the mineral kingdom will be first spoken of. 2d, those of vegetable origin; 3d, such as are of animal nature; and 4th, the raw material furnished by chemistry.

CHAPTER VI.

SUBSTANCES FROM THE MINERAL KINGDOM.

These substances are little used by the perfumer, and it would, perhaps, be well if they were even less frequently employed, as all the mineral products are, in greater or less degree, noxious.

TALC.

The kinds suitable for perfumers' use are, 1st, the talc of Hungary sent to market under the name of *Venetian* *talc;* it is soft and unctuous, sometimes greenish-white, sometimes yellowish, gray, or deep green; and 2d, the *scaly talc* called *Briancon's chalk.* They are used as the basis or body of paints and toilet powders.

BISMUTH

Is used to make white paint. To guard against any admixture of arsenic, the bismuth should be selected well crystallized; when purchased in plates, those of large size must be selected and submitted to the action of heat in a crucible, to volatilize any remaining arsenic.

To prepare PEARL WHITE, the metal is dissolved in pure nitric acid. This nitrate, thus formed, when dropped into pure water, deposits a beautiful white precipitate of subnitrate of bismuth, which, after being thoroughly washed with pure water, is the preparation called *oxide of bismuth.* If solution of chloride of sodium is added during the washings, the precipitate is changed to *subchloride of bismuth*, known by the name of *pearl white.*

CERUSE.

This preparation, commonly called *white lead* or *carbonate of lead*, differs from the above substances in being capable of adulteration with chalk, sulphate of baryta, etc. The first quality, or perfectly pure carbonate of lead, is termed *krems* or *silver white.* The second, or *Venetian white*, consists of equal quantities of carbonate of lead and sulphate of baryta; the third quality, or *Hamburg white*, is formed of one part carbonate of lead, and two parts baryta. The fourth quality, or *Holland white*, is formed of one part lead to three parts baryta. The krems white, when pure, should be very soft and unctuous. It makes a beautiful pale red.

As all materials intended for paints should be proof against the action of sulphuretted hydrogen, these substances are objectionable, since both lead and bismuth become dark on contact with that gas. The precipitated carbonate of lime is a good substitute, being an impalpable powder, of great softness and whiteness, and unchangeable by the air.

VERMILION OR CINNABAR,

Called by chemists *red sulphuret of mercury*, is composed of 86.20 of mercury, and 13.80 of sulphur. It is used by perfumers for coloring certain kinds of cosmetic pastes and pastils, but more especially soaps. There are two kinds of vermilion—the natural and artificial—that from Holland is the best.

The perfumer should be careful to test the vermilion he purchases, as it is frequently adulterated with red lead, colcothar, dragon's blood, brick-dust, etc. Pure vermilion, when thrown upon a highly heated plate, will volatilize without residue and without any disagreeable odor.

SALTPETRE.

This salt, also called *nitre* and *nitrate of potash*, is used in the preparation of fragrant pastils. Pure saltpetre crystallizes in long hexahedral prisms, terminating at the top, in six faces. Nitre has a cooling, saline, and piquant taste, is promotive of the secretion of saliva, and is soluble in cold or warm water.

CHAPTER VII.

SUBSTANCES FROM THE VEGETABLE KINGDOM.

THIS department comprises the most important materials used by the perfumer, and is so extensive as to render a classification necessary.

1. ROOTS AND WOODS.

VITIVERT, or *kus-kus*, is the rhizome of an Indian grass. In Calcutta it is manufactured into blinds, sunshades, etc. It has an odor between aromatic and spicy, and that of flowers, and is used to manufacture the essence, the otto and sachet of vitivert.

PATCHOULY (*Pogastemon patchouli*) is an herb that grows extensively in India and China. It resembles our garden sage in its growth and form, but its leaves are not so fleshy. The odor of patchouly is due to an otto contained in the leaves and stem, and is procured by distillation. A hundred weight of the herb yields about 28 ounces of essential oil. This herb is extensively used for scenting drawers in which linen is kept, as it prevents clothes from being attacked by moths.

ORRIS ROOT (*Iris Florentina*) is a rhizome, and has a very pleasant odor, resembling that of the violet. The perfume is good and well worthy of the place it has obtained as a perfuming substance. The powder is very extensively used in the manufacture of sachets, powders, tooth-powders, etc.

ANGELICA ROOT (*A. Archangelica*).—Not only the root is used, but also the tops of the flowers.

Galanga Root.—The small species is preferable. The flowers also yield a very penetrating oil of agreeable odor.

Calamus (*Acorus calamus*) has an aromatic taste and smell. That which is reddish externally and white within, should be selected.

Cedar.—This wood has been famous since the days of Solomon, who employed it in the construction of the temple. It is occasionally employed by perfumers, and when ground, answers well as a basis for sachet powder. Slips of cedar are used as matches on account of the agreeable odor they give in burning. By distillation it yields an exceedingly fragrant essential oil.

Ginger (*Amomum zingiber*) grows in the East and West Indies, and Mexico, and enters into the composition of many aromatic waters, and some tooth-powders. Its fracture should be clean and resinous; its color, inside, whitish-yellow. The best is that which is fresh, dry, difficult to break, and has a warm and pungent taste. The Jamaica ginger is longer and more slender than the above, and white interiorly; it gives a powder of an agreeable odor and very warm and spicy taste; it yields a volatile oil on distillation.

Brazil Wood is used for coloring common rouges, soaps, pastes, etc. That of Pernambuco is the best; it is very hard, compact, and when first cut, of a light reddish-brown color, which gradually heightens by exposure to the air.

Guaiacum Wood grows in St. Domingo, Jamaica, and other West India Islands, and is very useful for some much esteemed odontalgic liquors. It is hard, compact, and resinous. Its raspings, often mixed by the druggists with those of boxwood, are of a much deeper yellow than the latter, and are easily distinguishable from them by their sharp and repulsive taste. Its gum has a very agreeable odor, which is developed when kneaded with the hand or thrown upon burning coals. This gum is very rare, and could easily be confounded with the Arcanson, if the latter had not the smell of turpentine.

ALOE WOOD comes from China, and is of three kinds: 1st. *Calombac*, which is very rare, unctuous, resinous, and has a reddish-brown jasper color; 2d. *Agallochium wood*, which much resembles the preceding, but has not the odor or myrrh; and 3d. *Aigle* or *Gare wood*, which is not bitter like the other species, and has a greenish-yellow color and musky odor. The perfume of this wood renders it particularly suitable as an ingredient of fuming pastilles.

SANDAL WOOD is imported from the East Indies. It is either white, yellow, or red, and has an odor resembling that of the rose. The yellow is most used in perfumery. A hundred weight of good wood will yield almost 30 ounces of otto.

RHODIUM, or ROSE WOOD, the lignum of the *convolvulus scoparius*, grows in the Canary Islands, and also in the Island of Cyprus. It is of a pale red color, slightly bitter, and when distilled yields a sweet smelling oil resembling the fragrance of the rose. A hundred weight of wood gives almost three ounces of oil. Ground rhodium wood is valuable as a basis for sachet powders.

ST. LUCIE, ST. LUCE, or MEHABEB WOODS.—The first two kinds come from Switzerland. This wood is reddish violet and of an agreeable odor which increases with its age.

PALLISANDRE WOOD was formerly used for coloring powders. It is procured from cabinet makers, in small pieces or as sawdust.

SASSAFRAS WOOD is found in the United States. The odor chiefly resides in the wood. Some perfumers in Germany use a tincture of this wood in the manufacture of hair washes and other nostrums. The *eau athenienne* is but a weak tincture of sassafras.

Cinnamon is the bark of the *Laurus cinnamomum*, and is one of the most valued spices in the east. Perfumers use both the bark and the oil obtained by distillation from it. The ground bark enters into the composition of pastils, tooth-powders, and sachets. The essential oil is principally brought from Ceylon, and is exceedingly powerful.

Artificial preparation of Oil of Cinnamon.—Some years since, Straker showed that stryone, which is obtained by heating styracine with potash, is the alcohol of cinnamic acid; and Wolff, by the use of oxidizing agents, has converted this alcohol into the acid. The author has proved that styrone yields aldehyde of cinnamic acid—*i. e.*, oil of cinnamon—under the same conditions that alcohol produces aldehyde. It is only necessary to moisten the platinum with black styrone, and let it remain in the air some days, when, by means of the bisulphate of potash, the aldehyde, double compound, may be obtained in crystals, which should be washed with ether. By the addition of diluted sulphuric acid, pure aldehyde of cinnamic acid is afterwards procured. The conversion of styrone into hydruret of cinnamyl is shown by the following equation—$C^{18}H^{10}O^{2}+O^{2}=C^{18}H^{8}O^{2}+2HO$.

Cassia, bark of the *Cassia laurus*, is known to the trade under the name of *false cinnamon*, but is little used in perfumery.

Clove Bark (*Caryophyllus aromaticus*).—This plant is a native of the Molucca and other islands in the Chinese Seas. Every part of the clove plant abounds with an aromatic oil, but it is more fragrant and plentiful in the flower-buds, which are the cloves of commerce. It furnishes a highly valued otto.

CASCARILLA (*Cascarilla gratissima*).—The bark is used in the formation of the Frangipanni incense, and enters into the composition known as *eau a bruler*, which is used for perfuming apartments. The bark alone is used by perfumers.

SWEET FLAG (*Acorus calamus*).—This root furnishes a pleasant oil on distillation. A hundred weight of the rhizome yields one pound of oil. It can be used to scent soaps, greases, etc.

2. LEAVES AND FLOWERS.

The perfumer uses the leaves and flowers of the following plants: *Rosemary*, *large and small gentian ;* the different herbs: *sage*, *rue*, *thyme*, *balm*, *wild thyme*, *common mint*, *peppermint*, *cresses*, *fumitory*, *horehound*, *motherwort*, *lavender*, *wallwort*, *vervain*, *tansy*, *badiane*, *valerian*, *absinthe*, *juniper-berry*, *balm-mint*, *marjoram*, *fraxinelle*, *dwarf chamomile*, *comfrey*, *hyssop*, *dwarf centaury*, *mugwort*, *bugloss*, *mullein*, *sweet basil*, *betony*, *balm-mint*, *holly thistle*, *melilot*, *plantain*, *veronica*, *St. John's wort*, *ground ivy*, and of other aromatic and vulnerary herbs of which the perfumed waters and vinegars are confectioned. They are used in the green state, and those are selected which are sound and have been gathered at the flowering time of the plant, and after the sun has dissipated the dew. These last two conditions are indispensable when the leaves are to be dried and preserved; and equally necessary for all fresh leaves and plants largely employed. The leaves are dried by exposure to the sun or upon frames in a drying room. They are stirred from time to time, and, as soon as they become friable, they are to be taken out, and exposed to the air two or three hours, and then packed in tight boxes, and kept in a dry place.

3. FLOWERS.

ROSES.—The oil or *otto* or *attar* of roses is procured by the distillation of the roses with water. The pale rose (*Rosa centifolia provincialis*), cultivated in Turkey and India, is most employed. In good seasons in the Balkan, the district yields 75,000 ounces, and in bad seasons 20 to 30,000. It requires about 20,000 rose blossoms to yield a drachm of otto.

The otto slightly varies in odor, and some varieties solidify more readily than others, which, therefore, is not a sure sign of purity.

The uses of the rose are very extensive, as we shall see hereafter. It is used both fresh and dried.

ORANGE FLOWERS give two distinct odors, varying according to the method adopted for procuring them. Distilled with water they yield the otto known by the name of *neroli*. This quality of fragrance is not peculiar to the orange flavor alone, but exists in many others, and is of great advantage to the perfumer.

CASSIA (*Acacia fernesiana*) yields one of the finest odors which enter into the composition of the best handkerchief bouquets. The value of the cassia buds is from fifty to eighty cents per pound, and it requires four pounds of flowers to perfume two pounds of grease.

JASMINE (*Jasminum odorotissimum*).—This flower is among those most highly prized by the perfumer. It is very extensively cultivated at Cannes, in France, and gives a sweet and delicate odor which cannot be imitated. The cost of this flower is from twenty to thirty cents per pound.

TUBEROSE is one of the most exquisite odors obtained by *enfleurage.* It requires six pounds of flowers to perfume two pounds of grease, and the value of the flower is fifty cents per pound.

JONQUIL.—This scent is very excellent for perfumery purposes, but is little cultivated in comparison with jasmine and tuberose.

LILY.—The lilies of the field are not cultivated for their perfume, and it takes a large quantity to scent olive or sweet almond oil.

LILAC.—The fragrance of this flower is well known, and is used to adulterate tuberose. The essence is obtained either by maceration or enfleurage with grease.

HELIOTROPE (*Heliotropium peruvianum*).—The fragrance is obtained by maceration or enfleurage, but is not now used by perfumers.

MYRTLE.—A hundred weight of the flowers give about five ounces of volatile oil, which is rarely found pure in the perfumer's shop.

VIOLET (*Viola odorata*).—This perfume is so universally known and admired, that it is unnecessary to speak in its favor, and the demand for it is so great that it is difficult to procure a genuine article. The aroma is obtained either by maceration or enfleurage. Violet flowers are worth about 45 cents per pound.

MIGNONETTE, or *reseda*, is not frequently used, as it is difficult to obtain its fragrance pure. The odor is modified by the separation of the plant, and violet is added to give it the sweetness of the flowers.

ELDER (*Sambucus nigra*).—The only preparation of this plant used by the perfumer is the elder flower water. This flower is not much employed.

FRANGIPANNI (*Plumeria alba*).—This plant is a native of the West India Islands, where it grows abundantly. The juice is milky and very poisonous.

HONEYSUCKLE, or *woodbine*, is not used in practical perfumery, but need not therefore be abandoned.

HOVENIA (*Hovenia dulcis*).—A perfume is sold under this name, but does not smell better than the plant. The article in the market is an imitation.

LAVENDER (*Lavandula vera*) is extensively cultivated in England, at Mitcham, in Surrey, and at Hitchin, in Herts. Large quantities are also grown in France. Fifty pounds of good lavender flowers yield, by distillation, from fourteen to sixteen ounces of essential oil. The number of lavender plants upon an acre of land would be about 3,547, if planted one yard apart and four feet between the rows. An acre would yield from six to seven quarts of oil.

MAGNOLIA.—The perfume of this flower is superb, but is of little use to the perfumer. A very excellent imitation of it is made by the perfumers of London and Paris.

NARCISSUS is cultivated to a small extent at Nice; its odor is procured by enfleurage and maceration.

SWEET PEA.—A very fine odor is extracted from the flower of the chick-vetch by enfleurage with a fatty body, but it is rarely manufactured.

SYRINGA (*Philadelphus coronarius*) has an intense odor so much resembling that of orange blossom, that in this country it is often termed *mock orange*. A large proportion of the pomatum sold in France as orange pomade is nothing but suet perfumed with syringa.

VOLKAMERIA (*Volkameria inermis*) is a native of India, and is little known. An exquisite perfume is known under this name, and is presumed to be derived from the plant.

Wallflower (*Cheiranthus*).—Exquisite as is the odor of this flower, it is not used in perfumery, though it might be successfully employed. Its odoriferous principle could be obtained in the same manner as those of heliotrope and jasmine.

4. LEAVES.

Citronella (*Andropogon schœnanthus*).—The oil of this plant, found in the market, is obtained from the leaves, by distillation, and is chiefly imported from Ceylon, where large tracts of land in the neighborhoods of Galle and Colombo are cultivated for the purpose of procuring the odoriferous principle. The average annual export of citronella from Colombo is about 4000 lbs. It is extensively used for perfuming soaps.

Geranium (*Pelargonium odoratissimum*).—The leaves of this plant yield, by distillation, a very agreeable rosy-smelling otto, which is extensively used to adulterate otto of rose, and is, itself, adulterated with ginger-grass oil. It is principally cultivated in the South of France and in Turkey. One hundred weight of leaves yields about two ounces of otto.

Pimento.—Both leaves and berries of this plant yield a fine otto, but that from the berries is to be preferred. Its odor resembles that of cloves. One hundred weight of pimento yields six pounds of otto.

Sage.—A powerful scenting otto can be procured by distillation from any of the salvia. It is rarely used, but very valuable for scenting soaps.

Thyme (*Thymus serpyllum*) yields by distillation a fragrant otto used to perfume soaps. The dry herb is employed for sachets.

VERVAINE (*Aloysia citriodora*) yields one of the finest perfumes we are acquainted with. On account of its high price it is rarely used, but successfully imitated.

WINTERGREEN (*Gaultheria procumbens*).—A perfuming otto is procured from this plant by distilling the leaves, and is principally consumed in perfuming soaps.

5. FRUITS.

LEMON (*Citrus limonum*) produces a fine perfume which is extracted from the rind of the fruit by expression and distillation, and is much used. The best lemons for this purpose come from Messina. This otto oxidizes very easily.

BERGAMOT (*Citrus bergamia*).—This celebrated otto is procured from the peel of the fruit by expression; one hundred fruit yield about three ounces of the otto.

ORANGE.—The properties of the otto of this fruit are similar to those of the lemon, and it is obtained in the same manner.

CEDRAT (*Citrus medica*).—This perfume is procured like that of the lemon. It is used principally in the manufacture of essences for the handkerchief.

ALMONDS produce an otto which is highly esteemed for perfuming soaps, cold cream, etc. The oil is obtained by pressure of the fruit, and distillation of the cake.

NUTMEG grows principally on Banda Island, one of the Molucca group. It produces a valuable otto which enters into the composition of numerous preparations.

COCOA NUT.—The properties of this nut are introduced into some pomades under the name of cocoa butter. It is imported from the East Indies.

CUCUMBER.—Its odor, differently appreciated, resides in an oil obtained from the freshly cut plant. It is used to make cucumber cold cream, etc.

PINE-APPLE is not much used by perfumers, but is extensively employed by confectioners as a flavoring extract. The oil found in the market is prepared artificially.

6. SEEDS.

VANILLA (*Vanilla planifolia*) is a bean which grows in Mexico and Central America, and yields a perfume of rare excellence; the Mexican is the best. Vanilla is used to manufacture hair washes, perfuming soaps, etc.

FENNEL (*Fœniculum vulgare*) produces an otto used to perfume soaps.

FENUGREC, CORIANDER, CUMIN, CARAWAY, CHOUAN; all these aromatic seeds must be selected fresh and fragrant.

AMBRETTE, or MUSK SEED, is produced by the *Hibiscus abelmoschus*. The best grows in Martinique. It is used to scent the starch of which hair powders are made.

ANISE (*Pimpinella anisum*) yields the oil of aniseed of commerce, which is frequently adulterated with a little spermaceti to give it a certain solidity. This oil is exceedingly strong, and is well adapted for mixing with soaps and for scenting pomatums, but is not desirable in compounds for the handkerchief.

TONQUIN, or TONKA (*Dipterix odorata*), yields the tonquin or *coumarouma* beans of commerce. They are exceedingly fragrant when fresh, and contain a volatile oil and benzoic acid. In perfumery they are valuable in making sachets, and the infusion or tincture enters into many compounds.

7. HERBS—LEAVES.

LAUREL.—The leaves of the *Prunus lauracerasus* yield, by distillation, an exceedingly fragrant oil and perfumed water, which are, however, rarely used, as the oil of bitter almond, which answers the same purpose, is much cheaper.

LEMON GRASS (*Andropogon nargus*) is a species of grass which grows abundantly in India, and is cultivated extensively in Ceylon and the Moluccas for the otto.

This oil is used for perfuming soaps and greases; but its principal consumption is in the manufacture of artificial essence of verbena. The annual production of lemon grass is nearly 1500 pounds, valued at sixty cents per ounce.

MARJORAM (*Origeat majorana*) yields a very powerful oil called by the French *oil of origeat*. One hundred weight of the dry herb yields about ten ounces of otto.

MEADOW-SWEET (*Spiræa ulmaria*) gives a sweet smelling otto, but is not used by perfumers.

MINT (*Menthidæ viridis*).—The otto furnished by this herb is exceedingly powerful and very valuable, in conjunction with other perfumes, for perfuming soaps. It is used principally in the manufacture of mouth-washes.

PEPPERMINT yields a highly esteemed otto, which is sometimes used for scenting soaps and making mouth-washes.

SPIKENARD (*Nardostachys gatamausi*), on account of its odor of valerian, is not used by French and English perfumers, but is in high repute with the Asiatic nations.

8. BALSAMS AND RESINS.

The term *Balsam* was formerly applied to all liquid vegetable resins. The French chemists, however, confine the term to vegetable substances composed of Benzoic acid with more or less volatile oil; but, as this classification excludes copaiva and some other substances, commonly called balsams, the German chemists use the term in its old acceptation, and divide the balsams into those containing and those not containing the acid. Those holding Benzoic acid have an aromatic, usually agreeable, odor, and a warm acrid taste.

Balsam of Peru is the juice of the *Myroxylon peruiferum.* Its odor very closely resembles that of vanilla, but is not so generally pleasing on account of its dark color; it cannot be much employed in spirit perfumery, but imparts a fine fragrance to soaps, and causes them to create a soft creamy lather.

There are three kinds—two liquid and one solid. That called white balsam is not often found in the trade. The black balsam is soluble in alcohol and volatile oils, but unmiscible with fat oils or water.

Balsam Tolu is the juice of the *Myroxylon toluiferum.* It resembles common resin, and becomes liquid on the least elevation of temperature. Its smell is agreeable, and, being soluble in alcohol, it makes a good basis for a bouquet, the proportions for which are—Tolu ½ lb., spirit 60 p. c. 1 gallon.

Balsam of Mecca (*Gum amyris opo balsam*) is scarce and expensive. What is generally sold under this name is merely the oil obtained from the seeds, stones, and branches, from the tree, by boiling.

Labdanum is an exudation of the *Cistus creticus.* The finest is dark brown exteriorly and grayish internally, dry, porous, and brittle, but softens between the fingers, and emits an agreeable amber-like odor.

STORAX is the exuded juice of the *liquidambar styraciflua.* It is abundant in warm countries, and is imported from the Levant and many parts of Syria. That in mass is to be preferred; it is of a reddish color, soft and greasy, and of an agreeable odor.

DRY STORAX is brought from Marseilles or Holland in reddish lumps filled with tears, which are white interiorly and reddish exteriorly. Select those tears which are handsome, separate, colored as described, and least bitter.

LIQUID STORAX is the expressed juice of the bark and young twigs of *Styrax officinale*, which grows in the islands of Kos and Rhodes. That which is gray, least humid, and most free from dirt, should be selected.

CAMPHOR.—This substance is produced by several plants, but especially by the *Dryobalanops camphora*, which grows in Sumatra and Japan. The kind mostly used is derived from the *Laurus camphora.* Camphor exists within the tree ready formed; but that of the shops is refined after being imported.

MYRRH.—This odorous gum grows abundantly on the coast of the Red Sea, and has been known from time immemorial. Its fragrance is due to an essential oil, of which eight ounces are obtained from one hundred pounds. There are two varieties: that called *kurbeta* produces the best gum; the other, called *hofali*, is inferior. Gum myrrh is used extensively by perfumers in the manufacture of dentifrices, pastils, and fumigating spirits.

DRAGON'S BLOOD.—This resin is the product of the *Calamus draco*, or *C. rotang*, and is imported from India.

It is inflammable and anti-scorbutic. That in small, clean, transparent tears, and which gives a deep red powder, is the best, but is rare. That most generally used comes to us in sticks enveloped and tied, and gives a deep red powder.

MASTICH is a white, transparent resinous exudation of the *Pistacia lentiscus*. It is inodorous until rubbed, when it emits a fragrant perfume.

BENZOIN is an exudation of the *Styrax benzoin*, which grows in Borneo, Java, Sumatra, and Siam. It is obtained by wounding the tree, and, on drying, becomes a hard gum resin. It is a very valuable substance to perfumers, being largely employed in the manufacture of pastils, and for the factitious vanilla pomade, while its extract or tincture forms a good basis for bouquet. By sublimation, it gives *benzoic acid*. Its essential oil has not yet been separated.

CATECHU is the juice of the *Mimosa catechu*, a tree growing in Japan. Three kinds are found in the trade. The best is very rare, and comes in lumps of about four ounces, of a dull red color, astringent but not bitter. The brown catechu is in round lumps of about three ounces, astringent and bitter, heavier, browner, harder, and inferior to the preceding. The catechu in mass is found in the market in fragments of about four ounces enveloped in large leaves, and has an astringent bitter taste. It is of good quality.

We shall include among the raw materials used by the perfumer:—

THE OILS.—*Olive oil* is much used for making soaps. *Ben oil* is extracted from the seeds of the *Moringa oleifera*. It is colorless and unalterable, a quality important to perfumers in extracting the smell of flowers which it keeps intact for a long time. *Black garden poppy oil* is used as a substitute for olive oil in the manufacture of soaps.

Acetic Acid is extensively employed in the manufacture of toilet vinegars. It must be obtained as pure as possible, and perfectly free from the smell of pyrolygneous acid.

Alkalies, such as *potash* and *soda*, are required in the fabrication of soaps.

Rosin and some gums, among them the *gum tragacanthe*, enter into the confection of certain products of the art of the perfumer.

Starch, or Fecula, is found in the cellules of certain vegetables. The starch extracted from potatoes is always designated by the name of fecula. Starch is an impalpable powder of a density equal to 1.83, insoluble in cold water, alcohol, or ether, but disaggregated by hot water, which transforms it into a transparent and gelatinous mass similar to a jelly. Boiling water containing $\frac{2}{1000}$ of oxalic acid, or a torrefaction at 320°, transforms it into dextrine, and when acted on by nitric acid it becomes an explosive compound called *hyloidine*. Starch is used to manufacture what is called rice powder.

Dextrine is a soluble starch which presents itself in the form of a white powder, friable, soluble in water, insoluble in alcohol, and converted into glucose by fermentation.

Inuline, which is met with in many roots, is insoluble in cold water, but soluble in warm, odorless, insipid, and differs from starch in not forming a jelly with boiling water and in not being colored blue by iodine.

Alcohol, or Spirit of Wine, is so well known that it is unnecessary to go into the details of its manufacture, which can be found in special treatises on that subject.

It is extracted from wine, grains, potatoes, beets, etc. Spirits of wine is generally used for the preparation of fine liquors, and to strengthen weak wines, and must be rectified before being used in perfumery. The alcohols obtained from the other sources we have indicated above, when rectified, are better than spirits of wine for the purposes of the perfumer; they do not contain the aromatic oil which is found in the latter. A good perfumer must select the purest alcohol, without taste and smell; he must keep it concentrated, and may dilute it when necessary. The strength of alcohol is measured with an apparatus called an areometer. For more details on this subject we refer the reader to the work of M. L. Byrn, entitled *The Complete Practical Distiller*.[1]

CHAPTER VIII.

SUBSTANCES DERIVED FROM THE ANIMAL KINGDOM.

Sponge.—The best sponges are imported from Smyrna and from the Grecian Archipelago. They are the product of numerous almost imperceptible marine animals, called *polypi*, and are found adhering to stones at the bottom of the sea. When imported, they are full of sand; it is best to purchase them in this state, and afterwards clean them by beating the sand out, and then rinsing them in cold water.

Coral, though analogous to sponge in its origin, is yet entirely different in its nature, being almost entirely composed of carbonate of lime, while the latter consists of the same elements as animal matter. It is a component of some dentifrice powders. There are the red, yellow, white, flesh, and parti-colored coral; the red being the most esteemed. The shade is unimportant to the perfumer, as he can readily impart color to powders with which it may be mixed.

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[1] Published by Henry Carey Baird. Philadelphia.

Ambergris.—This substance is found floating on the sea, near the islands of Sumatra, Molucca, and Madagascar, and on the coasts of America, Brazil, China, Japan, and the Coromandel. It is also found in the stomachs of the most voracious fishes, especially in the intestine of the spermaceti whale, but most commonly in sickly fish, whence it has been supposed to be the cause or effect of disease.

Powdered ambergris is used in the manufacture of cassolettes, which are made to contain a paste of strong smelling substances to carry in the pocket or reticule, and also in the manufacture of peau d'Espagne, which is used for perfuming writing paper and envelopes.

Musk.—This substance is an animal secretion contained in excretory follicles, about the navel of the male animal. In the perfumery trade these little bags are called *pods*, and, as imported, they are called *pod musk*. It is obtained only from the musk deer (*Moschus moschatus*) which inhabits India, Thibet, and China. There are three kinds of musk, namely: the *Cabardien*, or *Russian*, which is rarely adulterated; the *Assam*, which is very strong, but has a rank smell; and the *Tonquin*, or *Chinese*, which is mostly prized, but is more adulterated than the above.

Perfumers use musk principally in the scenting of soaps and sachet powders, and in mixing with liquid perfumery.

Civet is a substance secreted by the *viverra civetta*, or civet cat, and is formed in a large double glandular receptacle between the anus and the pudendum of the creature;

it is imported principally from India, and comes in small bags or pouches made from the skin of the animal. It must be used in small proportions, as too large a quantity is offensive.

CASTOR.—A secretion of the *Castor fiber*, or beaver, is imported from Canada and the territories of the Hudson's Bay Company. It diffuses a particular odor, but its virtues are impaired by age.

LARD AND SUET.—These form the basis or body of pomades. Their constituents are *elaïne* (oil), *stearine* (suet), and sometimes *margarine*. These last two substances are separated from the first by heating the lard, granulating by slow cooling, and pressing the mass in bags; the elaïne passes through, and leaves the two other solid constituents. These latter are separated by boiling ether, which lets the stearine fall in cooling, and afterwards deposes the margarine by spontaneous evaporation.

Lard is composed of 62 parts of elaine, and 38 parts of stearine. The perfumer must always select fresh, white, and clean lard, tallow, suet, and beef marrow, and, as we shall see hereafter, must purify them himself.

BEAR'S GREASE.—This is the fat of the common bear so frequently found in the United States. It is much used for the growth and preservation of the hair.

SPERMACETI.—This substance crystallizes spontaneously from the oil of the spermaceti whale, and when purified is crystalline, of silvery lustre, brittle, soft, and slightly unctuous to the touch; being inodorous it enters into the composition of a large number of pomades, cosmetic pastes, etc. It should be kept covered, as it becomes rancid on exposure to the air. It is soluble in alcohol, from which it crystallizes.

Wax.—This well-known substance consists of two principles: *cerin* and *myricin;* the former soluble, and the latter insoluble in alcohol. Natural wax is yellow, but is perfectly bleached by exposure to the air and sun. The perfumer uses it for delicate cosmetic pastes, for which purpose it must be perfectly pure, tasteless, and free from spermaceti or stearic acid. The yellow wax is also useful to perfumers.

Cochineal (*Coccus cacti*) is a small insect indigenous to Mexico and New Spain, and feeds on the *Cactus opuntiæ*, or *nopal.* Cochineal is often adulterated with colored dough. The best variety is that with a silvery appearance, which, when rubbed, gives a brilliant crimson powder. Its principal constituent is a peculiar coloring matter, called *carmine*, which is much used by perfumers, and is differently prepared, according to the following formulæ:—

Common Carmine.

Take—

Powdered Cochineal,	1 lb.
Subcarbonate of Potash,	3½ drachms.
Powdered Alum,	1 ounce.
Isinglass,	3½ drachms.

Boil the cochineal and subcarbonate of potash in a copper vessel, containing 5 buckets of water, and quiet the effervescence by fresh additions of cold water. After a few minutes of ebullition, remove the kettle from the fire, and place it on a table, at such an inclination as to permit the decanting of the liquor conveniently. Throw in the alum, stirring the decoction continually, which immediately changes color, and takes a more brilliant tint. In fifteen minutes the cochineal falls to the bottom, leaving the supernatant liquid clear. This contains the coloring matter, and perhaps a little alum in suspension.

Decant the liquid in a sufficiently large vessel, and place it upon the fire, adding the isinglass, dissolved in much water, and well strained. At the moment of ebullition, the carmine rises to the top of the bath, and a coagulum forms similar to that in clarification with white of eggs. Remove the kettle then, and stir well with a spatula. At the end of fifteen or twenty minutes the carmine is deposited. Decant the liquor, and throw the precipitate upon a clean linen cloth to drain and dry.

Fine Carmine.

Boil 4 buckets of water in a large copper kettle, take from this 2 pounds of hot water and pass it through a fine strainer into a stone jar, upon five well-beaten eggs, and place this emulsion aside. Into the boiler, holding the rest of the hot water, turn 10 drachms of alicant soda, dissolved in 1 gallon of boiling water, and at the same time add 1¾ lbs. of coarsely bruised cochineal, and boil a half hour, stirring well. Remove the vessel from the fire, and add 15 drachms of pulverized alum; stir with a wooden spatula, and leave for 10 or 15 minutes, just until you observe the water has passed from violet to a very intense scarlet red, then decant the liquid into a suitable vessel, add the emulsion first made, and give it another boiling. Filter through a fine linen cloth, when the carmine remains on the filter. The filtered liquid is used to prepare lakes. The remainder of the operation is the same as in the preceding formula. The carmine is powdered, very finely bolted, and put up in bottles or tin boxes.

Superfine Carmine of Amsterdam.

Heat 6 buckets of rain water, and when it commences to boil, throw in 2 lbs. of finely-powdered cochineal; continue boiling 2 hours, and then add 3 ounces of pure water, and immediately afterwards four ounces of binoxalate of potash. Boil again 10 minutes, then remove the vessel from the fire, and let the decoction stand 4 hours. Draw off the supernatant liquid with a syphon, into numerous basins, and put them aside upon a shelf for about three weeks, at the end of which time a mouldy pellicle will be formed, which is to be carefully removed with a whalebone, or by means of a small sponge, attached to the end of a stick. The water is then run off through a syphon, which must reach to the bottom of the pans, the carmine being so compact that it adheres. This carmine is dried in the shade, and is of an intensely brilliant hue.

Chinese Carmine.

In a bucket of river water, boil two ounces of finely-powdered cochineal, and add thereto 60 grains of alum. Continue boiling for seven minutes, then remove the kettle from the fire, pour the contents into another vessel, and when it has settled, syphon off, and preserve the liquor. Then prepare a solution of 10½ ounces of common salt in one pound of nitric acid, to which solution, whilst cold, add slowly 4 ounces of pure granulated tin, taking care to make no new addition of tin until that previously put in is entirely dissolved. This tin solution is added, drop by drop, to the re-warmed cochineal liquor, and causes a precipitation of the carmine, which is separated by filtration or decantation, and dried in the shade upon plates of porcelain or stoneware.

German Carmine.

Boil 6 quarts of river water, and stir therein 2 ounces of powdered cochineal. After six minutes boiling, add 1 drachm of powdered alum and again boil for three minutes. Remove the kettle from the fire, and draw off the liquor through a syphon into a very fine filter.

This liquor, parcelled off into numerous vessels of porcelain or stoneware, after three days' repose, deposits the carmine, which is to be separated by decantation and dried in the shade.

The liquid running off, if allowed to stand several days longer, will again deposit a carmine, but of inferior quality.

Carmine D'Alyon.

In 2½ buckets of boiling water, place gradually one pound of powdered cochineal. Stir the liquor constantly, and after an ebullition of thirty minutes add a weak alkaline lye of 5 drachms of soda to a quart of water. Boil the whole for half an hour, then remove the kettle from the fire, place it upon a table in an inclined position, and stir in 6 drachms of alum. Leave to repose 25 minutes, decant the liquor into another vessel, and add to it the white of two eggs previously beaten up with half a pint of water, stir the mixture well with a spatula and boil again, when coagulation ensues and the carmine precipitates. Withdraw the kettle from the fire and let it stand for half an hour so that the carmine may be all precipitated. Decant the liquor, and collect the carmine on a fine cloth, filter; leave to drain, and dry upon frames covered with white paper.

Liquid Carmine

Is pure carmine dissolved in aqua ammonia.

Carmine is used to color powders, pastes, pomades, and other articles of perfumery.

Essential Oils.—As we shall devote a special section to these important volatile fluids, it is not necessary to treat of them in this place.

CHAPTER IX.

SUBSTANCES OBTAINED BY CHEMISTRY.

Chemistry, which has made such great progress since the beginning of this century, now offers a great number of products which are valuable to the perfumer. We proceed to enumerate those which are most employed.

Liquid Ammonia, which is found abundantly in the trade, is used with different odoriferant substances to manufacture several preparations called *Smelling Salts.* Carbonate of ammonia is also used for the same purpose.

Stearic acid, extracted from fatty bodies, is colorless, insipid, and crystallizable. It melts at 156°, and is insoluble in water, but soluble in alcohol or ether.

Margaric acid, extracted from olive oil, is solid, melts at 140°, and is insoluble in water, but readily soluble in alcohol or ether.

Palmitic acid, furnished by palm oil, has the same properties as the above. It melts at 143°.

Oleic acid is liquid, colorless, transparent, lighter than water, easily oxidized. It is insoluble in water, but soluble in alcohol.

OLEINE is met principally in fatty oils. It is a yellowish liquid which oxidizes in the air.

STEARINE is a white substance resembling wax, which is extracted from beef, mutton, tallow, lard, etc. It is inodorous, and without taste; melts at 143°, is insoluble in water, but soluble in alcohol and ether.

BENZINE is a colorless liquid with a sweet taste and an agreeable and ethereal odor. Its density = 0.83. It boils at 61°, is insoluble in water, but soluble in alcohol and ether.

COMMERCIAL BENZINE is a mixture of different carburetted hydrogens, obtained by distilling coal oil, but its strong odor prevents its use in perfumery. It is by treating the commercial benzine that chemists obtain the nitro-benzine, known by the name of *Mirbane oil*, or artificial essence of bitter almonds, now largely used as a substitute for the natural oil.

NAPHTHALINE is a solid body, which crystallizes in form of translucent shells. It melts at 174°, and is very soluble in alcohol, ether, and in fixed and volatile oils. Naphthaline is now obtained abundantly in the fabrication of illuminating gas.

THE OIL OF BITTER ALMONDS is created by the action of *Synaptase* on *Amygdaline*, both of which are contained in bitter almonds. Amygdaline is a white substance which crystallizes in bright and silky spangles. At the temperature of 53°, it loses the 6 equivalents of water it contains. The synaptase is white, insipid, nearly inodorous, and soluble in water, from which it is precipitated by alcohol. Coagulated by heat or alcohol, it has no action on amygdaline. These two substances, by reacting on each other, generate the oil of bitter almonds. This oil is liquid, of an oleaginous consistence, with an acrid and aromatic taste. Its density = 1.045. It boils at 356°, is little soluble in water, but soluble in all proportions in alcohol and ether. At a red heat, it is decomposed in benzine and oxide of carbon.

To extract the oil, macerate for 24 hours with water, torteaux of almonds, from which extract the oil; submit the magma obtained to distillation; you have thus a mixture of water and oil, which are separated by decantation.

Glycerine is an inodorous liquid, syrupy, uncrystallizable, and colorless, with a sweet taste; its density = 1.28. It is soluble in water and alcohol, insoluble in ether. When distilled, it decomposes, and gives off inflammable gases, acetic acid, and acroleine. Under the influence of oxygen it oxidizes, and unites with certain acids to form combinations called *Glycerides.*

The manufacture of stearic acid furnishes large quantities of a glycerine which is colored, and but little concentrated, and which, while in syrupy consistence, is purified by evaporation at 266°. The obtained product is treated by concentrated alcohol, which dissolves the glycerine alone. The alcoholic solution is then distilled, and the residue is digested with oxide of lead to separate the acids which accompany the glycerine. After being filtered, the liquor is treated by sulphuretted hydrogen, which precipitates the excess of oxide of lead. It is then decolorized by animal black, and concentrated.

Gelatine and Albumen.—The nature of these substances is so well known, that it is not necessary to describe them here.

Caseine is not yet employed in perfumery, but can certainly be utilized. It is a white substance, found in milk and cheese, and is pulverulent, odorless, and insipid, little soluble in water, insoluble in alcohol, and soluble in alkalies

PARAFFINE is extracted by slow distillation from bituminous schists and boghead. It is a solid, odorless, half translucent substance, similar to spermaceti. It is cheaper than wax, and can be used instead of it in several preparations.

CINNAMEN is a colorless liquid, with an aromatic smell, similar to benzine, and is obtained by distilling 1 part of cinnamic acid with 4 of caustic baryta. It is insoluble in water, but soluble in alcohol, wood-spirit, ether, oils, and sulphuret of carbon.

STYROL is a colorless liquid, with an aromatic smell, obtained by distilling 10 parts of styrax with water containing 3½ parts of carbonate of soda.

TOLUENE is a colorless oil, with the odor of Benzine, extracted from the resins of Tolu and Dragon-blood.

CYMENE is a colorless liquid, with a lemonish smell, obtained by distilling the oil of cumin, or camphor.

CUMENE is a colorless liquid, with an agreeable odor, extracted from coal oil.

CUMYLE is an oleaginous liquid, with geranium odor.

CUMINOL is a colorless liquid, with a strong odor of cumin.

CUMINIC ETHER is a colorless liquid, with the odor of apple.

We do not think it necessary to enlarge this nomenclature. It will be necessary for the manufacturer to keep himself acquainted with the new substances which are continually being introduced into the art of perfumery.

SECTION III.

POMADES.

According to ancient writers, unguents, pomatum and ointment are synonymous titles for medicated and perfumed greases.

The custom of oiling and greasing the hair is nearly universal among the people of all civilized nations. There are oil glands on the scalp, but their power of secretion is very slight, except in a few rare instances, in which the hair is said to be naturally *moist* and *soft*. The name of pomatum is derived from *pomuna*, an apple, because it was originally made by macerating over-ripe apples in grease.

The manufacture of pomades consists of two operations: 1st, the preparation of the fats or body; 2d, the mode of perfuming or scenting it.

CHAPTER X.

BASIS OR BODY OF POMADES.

The desired species of body having been determined, it is necessary to exercise great care in removing all impurities from the fat, and to this end the surest plan is to re-melt it, and after having kept it over a water-bath for several hours, to strain it while hot through thick flannel. This treatment expels the water and coagulates the albumen, and separates it from the fat. Attention must also be paid to the selection of suitable perfumes, and to the tints proper to be imparted to the pomades. Essences should be rarely used, as they are liable to be impure; but the perfume should be obtained directly from the flower. The superiority and unalterability of the French pomades are due to the great purity of the fat and perfume. It is also important to bear in mind the destination of the article, as it is necessary to add certain ingredients to those pomades intended for warm climates.

Pomade Body of Lard.

1*st Process.*—Mince the rough lard; rub it up in a large marble mortar, and wash repeatedly with water until it ceases to impart a color thereto. Drain and melt at a gentle heat in a clean vessel, adding two ounces of alum and a handful of salt for every sixty pounds of lard. Boil and remove the scum as it arises. When entirely liquefied, strain through a fine sieve, reserving the cracklings for pomades of inferior quality. Let the melted grease settle for one hour, then decant it from the water and sediment.

To effect a greater degree of purification, melt anew over a water-bath. Some perfumers add two or three quarts of rose water, but this renders the pomade liable to be altered. Terminate the process by decanting the melted fat from any sediment that may remain.

If the pomade is intended for warm climates, it is necessary to add then one-fourth or even one-half of beef tallow, in order to increase its consistence. If the article is destined for southern markets, it is well that the body should contain two or three ounces of white wax to every pound of colorless pomade, or yellow wax if the pomade is colored.

2d Process.—The fats thus purified, though perfectly white, are after a time liable to putrefaction on account of the water retained in them. Some perfumers beat their grease for the purpose of introducing a certain amount of air, in order to render it lighter and whiter, but in this way they run the risk of a decomposition of the fat. To obviate both inconveniences the following mode has been adopted: Bruise the grease without water till all the membranes are completely separated; then throw the mass into a kettle, and heat over a water-bath. The fat soon melts, and the albumen, in coagulating, removes all foreign matters. Skim from time to time, and afterwards strain through flannel. This pomade body requires less tallow and wax to increase its consistence.

3d Process.—Take fresh grease, and carefully extract the film. Then spread the grease on a strong oak board, and beat it well to open the cells which contain the grease. Being thus prepared, wash it five or six times in a large bucket half full of water, or until the water of the last washing remains clear and limpid. The object of this washing is to remove the bloody and coloring matters adhering to the grease, which can color and alter it during the coction.

These washings being completed, drop the grease on clean cloth, then melt it in a tinned copper kettle, in which is a quantity of water equivalent to one-third of its weight. When the grease is melted, add from 1 to 1¼ ounce of ammonia salt for each 20 lbs. of grease. Boil 8 to 10 minutes, and then melt. Decant into a conical-shaped tinned copper vessel, passing the grease through a hair sieve, which will retain all impurities and insoluble matters. Allow it to settle two or three hours, when the water will separate, carrying away the dirt. Then carefully decant the grease into the kettle, and, as before, melt with one-third its weight of water, to which is added a few quarts of rose or orange-flower water. When the grease is melted, add 2½ drachms of pure powdered alum to each 20 lbs. of grease. Boil gently for 8 or 10 minutes, and as in the first melting, skim carefully. All the scum being removed, cover the kettle, and leave the grease to settle for 4 or 5 hours, or, which is better, till it begins to whiten, or to coagulate on the edges of the kettle.

The grease being in this state, decant it into large varnished vases, or in little barrels of white wood, in which it is to be kept for use.

As the last portions of grease which swim on the water are less white and less pure than the first, they should be kept separate, to prepare products of second quality. The grease thus prepared can be kept a long time without alteration, and forms the body of pomades, and philocomes.

Pomade Body of Tallow.

This kind is commonly called hard body, and is united to the pomade body of lard by melting both, over a water-bath, or united to half its quantity of pomade body of beef marrow or bear's grease.

In its pure state, it often takes the place of bear's grease, and is commonly sold by that name, but is generally softened with lard. In winter, especially, it is necessary to put three parts of lard to two of white oil.

Beef tallow is purified and prepared in the same manner as lard.

Pomade Body of Mutton Suet.

This body is treated as the above, *i. e.*, is not used alone, but united with lard. This union is effected in a particular way; the mutton suet is never submitted to the operation of the coction. This grease is used for common pomades, and pomades in stick; in the last form, it is never mixed with other grease.

Process of Purification.—It is, of course, important for the perfumer to obtain a very white pomade. This is certainly accomplished by adding the juice of one lemon, or what is cheaper, a little tartaric acid, to 4 lbs. of melted grease, which should then be carefully beaten in portions, with a little broom, similar to those used to whip cream.

Pomade Body of Beef Marrow.

This pomade exists now only in name. To make 2 lbs. of pomade, mix 3 lbs. of pomade body of beef tallow, and 6 lbs. of pomade body of lard. Then add 4 lbs. of beef marrow, rubbed and melted as this last grease.

In summer, you can, if necessary, add 1 part of fine yellow wax. During winter, you must sometimes mix together ¾ body of lard, and ¼ of beef marrow, or ½ marrow and ½ white oil, without any addition of hard body.

Pomade Body of Bear's Grease.

To 4 lbs. of bear's grease add 2 lbs. of beef marrow, to give it consistence. If you have no marrow, use tallow. Melt, purify as above, and perfume with 6 ounces of oil of Lavender, and a few drops of oil of Thyme. All pomades sold by this name do not contain bear's grease, but are generally pomades badly prepared.

Body of Yellow Pomades.

It has been customary for some time to make pomades of beef marrow with a yellowish shade. For this purpose, a dark yellow body, containing a certain quantity of coloring matter, is prepared, and mixed with the pomade. The quantity is regulated so as to give a fresh butter color, and is ordinarily one ounce to one pound of pomade; the very dark yellow body is prepared in the following manner:—

Take 6 pounds pomade body of tallow, and melt it over a water-bath, with 1 lb. of annotto; incorporate thoroughly, by stirring one hour; then pass through a strong cloth, and press well.

The color which remains is again put with the same quantity of tallow, which is melted, and left to incorporate for one or two days.

Perfume with 1 oz. oil of bergamot to every pound of body.

Body of Green Pomade.

Take pure pomade body, or fine pommade à la rose, or fleur d'oranger, according to the quantity wanted. Melt over a water-bath; mix in it fresh walnut leaves which have been rubbed a little, if possible, in a marble mortar; leave them to infuse for a half hour, stirring from time to time; then express them through a cloth. Infuse a second time to give more color; leave it to settle, and decant carefully. Perfume with ½ an ounce of oil to every pound of pomade.

CHAPTER XI.

POMADES PREPARED BY INFUSION.

To manufacture these simple pomades, the flowers or odorous substances which are to impart the perfumes, are infused for a certain length of time in the melted body.

Pommade à l'Acacia or Cassie.

Melt 358 lbs. of lard body, and 177 lbs. hard body, over a water-bath; then throw in 164 lbs. of acacia flower leaves. Cover the vessel; stir the mass a day, so that the flowers may be thoroughly intermixed. At the end of this time, remelt the pomade, stirring well. Hold it in fusion another day, stirring frequently; then allow it to cool a little, and press through a canvas, so that the residuum may be perfectly exhausted and valueless. This operation is to be repeated ten times consecutively, with fresh flowers.

After the last infusion, be careful that the pomade settles until it is perfectly clear above; then decant into pots.

Pommade à la Rose.

Mix 17 ounces of fresh pale rose leaves with 17 ounces of body, composed either half and half of hard and lard body, or one part marrow and 3 parts lard body. This pomade is prepared in the same manner as the above, except that the infusion is repeated twelve times instead of ten.

Pommade à la Fleur d'Oranger (fine and extra superfine).

Take 9 ounces of orange flowers for every 17 ounces of pomade body, and infuse as directed above. If a superior article is required, observe the following directions:—

1. For the body, mix ⅔ of lard body purified by lemon-juice, with ⅓ white wax.

2. Separate the orange flowers from the leaves and stems, and infuse only the petals, rejecting all the yellow parts of the flower.

This pomade requires only eight infusions. At each pressing it is liable to form a deposit, which is put up as an inferior article, or used in compound pomades. The residuum should be preserved for the preparation of pomades, to which some other odor is to be added.

Pommade à la Vanille.

Melt 13 lbs. of pure body over a water-bath; add 12 ounces of finely divided vanilla; cover the vessel, and infuse for 15 days, stirring from time to time. Then remelt, and leave the infusion 10 days longer. Melt again, and finish as in the other pomades.

Pommade au Benzoin.

Macerate powdered gum benzoin in melted suet, or lard, for a few hours, at a temperature of about 185°. Let the mass cool until nearly solidified, and then filter.

Pommade aux Fèves de Tonka.

Take—

Tonka beans, ½ lb.
Fat or oil, 4 lbs.

Macerate for a few hours at about 285°; then strain through fine muslin, and let it cool.

CHAPTER XII.

POMADES PREPARED BY ENFLEURAGE, OR WITHOUT INFUSION.

In order to impart the more delicate perfumes of certain flowers, it is necessary to have recourse to the process of *enfleurage*, that is, to imbed the flowers in pomade body, spread upon glasses and frames.

Pommade à la Tubéreuse.

The high price of tuberose restricts its employment to small quantities. It is *enflowered* and confirmed in odor with a few drops of essence of amber and vanilla.

When the melted body, composed of prepared lard and tallow, is semi-solid; it is spread with a spatula upon the cover of a frame, to the depth of ⅙ of an inch. Diagonal furrows are then traced, ¼ of an inch apart, so as to form quadrangular squares. This plan regulates the position of the flowers, and facilitates the absorption of their perfume.

The flowers are then detached from the stem, divided into two or more parts, and sown in each square. The small flowers, as violet, etc., can be used whole.

The frames are placed one above the other, and left until the next day, when the flowers are carefully removed with nippers, care being taken not to break them, or soil the pomade, which cannot be remelted and decanted.

The first flowers being removed, are renewed by fresh ones, which remain two days. This operation is repeated six or more consecutive times. Certain flowers require several months. The proper degree of fragrance being obtained, the pomade is removed with a spatula, and put into pots.

M. Pivert has proposed the following mode of preparing this pomade: The flowers are placed in frames or boxes, which are then arranged one upon another, and between each a glass plate is disposed, upon which a bed of soft grease has been spread with a vermicelli press, and which thus presents a series of lines, having considerable surface. These flower-boxes and plates are placed in a little closet, so constructed that it can be put up or removed quickly, which is then closed, and the inside air is put in motion. The effect of this current of air is such, that the operation is effected in a fewer number of hours than it required of days before the adaptation of this ingenious apparatus.

Pommade aux Fleurs d'Italie.

Spread out 10 lbs. of prepared body, and enflower with hyacinths; repeat the operation five times. Repeat the operation with jonquilles, then with lilac, and, finally, with muguet. Melt, strain, and add—

Pommade à la fleur d'oranger, 1¼ lb.
“ au jasmin, 1¼ lb.
“ à la tubéreuse, 10 ounces.
“ au réséda, 10 ounces.
“ à la rose, 10 ounces.

This mixture is then perfumed with—

Ess. amber, 1¼ ounce.
“ musk, 4½ drs.
“ bergamot, 4½ drs.
Essential oil of cloves, 1½ drs.

Pommade au Jasmin.

Perfume 15 lbs. of well purified body with 6 ounces of benzoin. Melt, decant, let cool, and spread for enfleurage. Finish the process as before directed. This process is long and costly, as it takes a great quantity of flowers, which are difficult to obtain.

Pommade aux Pois de Senteur.

This pomade is prepared with the deep violet flowers of the fragrant chickwetch.

Infuse in the prepared body for six days, the marc of orange flowers; press, and add to the body yet liquid, 1 part of pommade à l'acacia. Enflower nine times, and heighten the odor with a few drops of essence of amber and of neroli. Color, red or bright violet.

Pommade à la Jonquille.

This pomade is prepared like the above. Some perfumers, however, add 1⅔ dr. of essence of musk to 10 lbs. of the pomade, thus making the *pommade à la jonquille musqué.* It is better to prepare both separately.

Pommade à l'Héliotrope.

Melt 10 lbs. of pomade body, and mix with it—

Pommade à la rose, 1¼ lb.
Pommade au jasmin, 2½ lbs.

Enflower four times, at an interval of four days. Then mix together—

Balsam Peru, 2½ oz.
Essence vanilla, 1¼ oz.
" of amber, 1¼ dr.

Add them after the last enfleurage. Some perfumers melt the pomade before adding the perfumes, but this practice is objectionable, because the heating destroys the fragrance of the heliotrope.

Pommade au Lilas.

It is necessary for this pomade, to have recourse to some perfumes of more diffuse fragrance than most of the lilac, which is weak.

Take 10 lbs. of body, melt, and add 13 ounces of storax, and 6½ ounces of powdered benzoin. Infuse three days, stirring from time to time.

Melt again, and add 3¼ lbs. of pure *pommade à la hyacinthe.*

The whole mass, being melted, is allowed to settle, and is drained clear. It is then spread upon the frames, and enflowered with lilac flowers. Before using the flowers, they should be exposed to the sun, or to the heat of a drying-room, in order to expel the water.

Pommade au Muguet.

Mix—

Lard body, 10 lbs.
Pommade à la rose, 2¼ lbs.
Pommade au réséda, 2¼ lbs.
" à l'acacia, 10 ounces.

Enflower carefully with lilies, and afterwards warm the pomade, and add 5 drops ess. of rhodium.

Pommade au Seringat.

To 10 lbs. of body, add—

Pommade à la fleur d'oranger, 1½ lb.
" à l'acacia, 1½ lb.
" à la tubéreuse, 1½ lb.

Spread the mixture, and enflower four or five times with fresh syringa flowers. Warm, and add some drops of neroli.

Pommade à la Jacinthe.

Operate as for the *pommade à la tubéreuse*, but enflower eight or ten times, and even oftener. Color the pomade red or blue. The color is added when the body is half fluid, and the enflowering with fresh hyacinth commences immediately.

Pommade à la Violette.

Select a good body; melt, and add one part of powdered orris root. Then decant, and color with a small portion of a mixture of indigo and decoction of Brazil wood.

Enflower with the same precautions as given for the *pommade au Lilas.*

Pommade au Narcisse.

Select a purified lard body, add one part of white wax, and, when cool, enflower with daffodils, deprived of their yellow coronas. Manipulate as with hyacinths, and, to perfume more strongly, continue with some jonquils.

Pommade au Réséda.

Select the mignonette with large and green leaves, expose for a few minutes to the air, and then break the bunches into several pieces. Spread the body and enflower, being careful not to break the little flowerets. Remove the flowers carefully with a pair of pincers, for it is important not to remelt the body.

If it is desired to make the pomade more pungent, add orris root, and when cold, a few drops of rhodium oil.

CHAPTER XIII.

POMMADES DE COMPOSITION, OR COMPOUND POMADES.

THESE pomades are ingenious, and often complicated mixtures of various pomades, and are intended to represent the perfumes of flowers, and to do away with the expensive process of enfleurage, and also to mitigate the energy of certain odors, as musk, vanilla, etc. In preparing them, the design should be to form—by the union of several perfumes—one special odor, embodying many, especially such as the fragrant scent of the pomades *au bouquet*, *au pot-pourri*, *à la Sultane*, etc.

Pommade à la Jonquille Composée.

Take—

Pommade à la fleur d'oranger, 2 lbs.
“ à la tubéreuse, 2 lbs.
“ à l'acacia, 1 lb.
“ au jasmin, 3 lbs.

Melt, mix together, and add—

Essence of amber, 2 drs.
“ musk, 2 drs.
“ Balsam Peru, 2 drs.
“ of styrax, 4 drs.

Color yellow with a little turmeric or saffron.

Pommade au Bouquet.

Take—

Pommade à la rose, 3 lbs.
“ á la fleur d'oranger, 2 lbs.
“ á l'acacia, 1 lb.
“ à la jacinthe, 1 lb.
“ au réséda, ½ lb.
“ à la jonquille, ½ lb.
“ à la vanille, 1 lb.

Melt over a water-bath, add 3 lbs. of *pommade au jasmin*, and, when the whole becomes half solid, perfume with—

Essence of bergamot, 2 oz.
Oil of cloves, 4 drs.
Essence of thyme, 2 or 3 drops.
Essence of amber and musk, 2 drs.

Pommade à la Jacinthe Composée.

Take—

Pommade à la fleur d'oranger, 1 lb.
" à la tubéreuse, 2 lbs.
" au seringat, 1 lb.
" à l'ambre, ½ lb.
" au réséda, ½ lb.

Mix, and melt the whole together, and perfume with half an ounce of essence of rose.

Pommade à l'Œillet Composée.

This pomade is rarely genuine, as the œillet is too costly.

To 6 lbs. of body, add—

Pommade à l'acacia, or fleur d'oranger, 4 lbs.
" au jasmin, or jonquille, 2 lbs.
Powder of brown cloves, 4 oz.

The whole being mixed together, perfume with—

Essential oil of cloves, 2 oz.
Essence of bergamot, 1½ oz.

Pommade à la Duchesse.

Melt 4 lbs. of prepared body, and add—

Pommade à la fleur d'oranger, 4 lbs.
" au jasmin, 3 lbs.
" à la rose, 1 lb.

When half solid, perfume with—

Essence of bergamot, 4 oz.
" " thyme, 1 dr.
" " amber and musk, 1 dr.

Pommade à la Violette Composée.

Infuse for some days, 1 lb. of powdered orris in 4 lbs. of purified pomade body, stirring frequently. Melt, strain, and add—

Pommade à l'acacia, 6 lbs.
" au jasmin, 1½ lb.
" au réséda, 1½ lb.

Perfume with a few drops of essence of ambrette.

Pommade à la Sultane.

Melt 4 lbs. of prepared body, and add—

Pommade à la rose, 1 lb.
" à l'héliotrope, or la vanille, 1 lb.
" à la tubéreuse, 1 lb.
" à la jonquille, 1 lb.
" au jasmin, 4 lbs.

When half solid, perfume with—

Essence of amber, 4 drs.
" " musk, 4 drs.
" " vanilla, 4 drs.

Pommade au Muguet Composée.

Melt together—

Pommade à la rose, 2 lbs.
" au réséda, 2 lbs.
" au pois de senteur, ½ lb.
" au jasmin, ½ lb.

Perfume with a few drops each of essence of amber, musk, and rhodium.

Pommade au Seringat Composée.

Take—

Pommade à la fleur d'oranger, 3 lbs.
" au réséda, 1 lb.
" à la jonquille, ½ lb.
" à la tubéreuse, ½ lb.

Perfume with—

Essence of amber, 2 drs.
" " musk, 2 drs.
" " neroli, 3 drops.

Pommade au Pot Pourri.

Melt 4 lbs. of prepared body, and add to it—

Pommade à la fleur d'oranger, 2 lbs.
" à l'acacia, 2 lbs.
" à la rose, 1 lb.
" au réséda, 1 lb.
" au jasmin, 2 lbs.

Perfume with—

Essence of bergamot, 3 oz.
Essential oil of cloves, ½ oz.
Essences of thyme, neroli, lavender, fenugrec, tincture of musk, amber, and vanilla, a few drops of each.

Color with 1 or 2 ounces of brown *poudre à l'œillet.*

Pommade à l'Héliotrope Composée.

Mix together, over a water-bath—

Pommade à la rose, 1 lb.
" à la vanille, 3 lbs.

When melted, add—

Pommade au jasmin, or à l'acacia, 2 lbs.
" à la tubéreuse, 1 lb.

Remove from the fire as soon as melted, and perfume with—

Essence of vanilla, 1 oz.
" " Mecca balsam, 1 oz.
Essential oil of cloves, ½ dr.
Tincture of amber and musk, each, ½ dr.

Pommade de Millefleurs.

This pomade differs very little from that of *au bouquet*, and is similarly prepared. The perfume is—

Essence of Portugal, 1 dr.
" " fennel, 1 dr.
" " lavender, ½ dr.

Pommade aux Fleurs d'Italie Composée.

The genuine pomade can only be prepared from the natural flowers in the spring, and with great care. Nearly all perfumers use the following composition:—

Pommade à la fleur d'oranger, 2 lbs.
" à l'acacia, 1 lb.
" au jasmin, 2 lbs.
" à la tubéreuse, or à l'oranger, 1 lb.
" à la jacinthe, or au lilas, 1 lb.
" au réséda, ½ lb.
" à la rose, ½ lb.
" à la jonquille, 1 lb.

Mix, melt, and perfume with—

Essence of amber, 6 drs.
" musk, 2 drs.
" bergamot, 3 drs.
" clove, 1 dr.

Before perfuming, color with 3 oz. of powdered bergamot peel, and 1 oz. *poudre à la vanille.*

Pommade à la Frangipane.

Melt 4 lbs. of prepared body, and add—

Pommade à la fleur d'oranger, 2 lbs.
" à l'acacia, 1 lb.
" à la rose, 1 lb.
" au jasmin, 4 lbs.

When half fluid, perfume with—

Essence of bergamot, 2 oz.
" " cloves, ½ oz.
Balsam of Peru, 1½ oz.
Essence of vanilla, 1 oz.
" " amber and musk, ½ oz.

Mix thoroughly. Before perfuming, color any shade desired.

Pommade à la Maréchale.

This pomade is prepared in the same manner as the above, except the perfume, which is as follows:—

Essence of bergamot, 1 oz.
" " cloves, 4 oz.
Balsam of Peru, 1 oz.
Essence of sassafras, ½ dr.
" " cinnamon, ½ dr.
" " rhodium, ½ dr.
Essential oil of anise, 1 drop.
Essence of amber and musk, 4 drs.

Color with—

Poudre à la vanille, 1 ounce.
Powdered bergamot peel, ½ ounce.

CHAPTER XIV.

ROMAN POMADES.

These pomades, which are midway between the pomades and antique oils, are easily prepared. Take one part of lard body, perfume as desired, and thin it with three or four parts of a perfumed oil, more or less, according to the temperature.

In summer, these pomades are substituted for the antique oils, which are liable to rancidity, but in winter, the oils are more convenient. Nevertheless, the manufacturer should prepare these suitable to every season. But (and this remark refers to all pomades) it does not answer to perfume with jasmine and tuberose from

June to November, as the temperature is prejudicial to pomades of these odors.

All the pomades we have described can be made *Roman pomades* by the addition of a perfumed oil; and the *pommades Romaines* becoming common pomades by the omission of the oil.

Pommade Romaine à la Bergamotte.

Melt together—

Pure lard body and hard body, 6 lbs.

Add—

Pommade à la fleur d'oranger, 4 lbs.

And, while still liquid, mix in—
Oil à la bergamotte, 2½ lbs.

Mix thoroughly, and perfume with—

Essence of bergamot, ½ lb.
" " limette, 3 drops.

Give a lemon color with a small quantity of the juice of the marigold flowers.

Pommade Romaine à l'Ambre.

Bruise 1 oz. ambergris in a cast-iron mortar, and as soon as fine enough, rub in ½ ounce of Tonquin musk. Add this mixture to 6 lbs. of melted body. Infuse ten days, decant carefully, and incorporate with the mass 2 lbs. of *oil d'ambrette.* If a very strong odor is desired, add 2 ounces of essence of amber.

Pommade Romaine au Musc.

Rub up—

Musk, 1 ounce.
Amber, ½ ounce.

Thin with *oil musquée*, and operate otherwise as above.

This pomade is the most costly. It keeps well, and is well adapted to transportation.

Pommade Romaine à la Vanille.

Take—

Pommade à la rose, 10 lbs.
Oil à la rose, 2½ lbs.
Pulverized vanilla, 13 ounces.
Bergamot, 5 ounces.

Melt the pomade in a water-bath, and throw in the vanilla. Leave to repose six hours, and decant carefully.

Pommade Romaine au Benzoin,

Pulverize together—

Storax, 10 ounces.
Benzoin, 1¼ lb.
Civet, a small quantity.

Infuse this mixture for ten days in 10 pounds of lard body, stirring frequently each day. Then remelt, and strain; and thin with 2½ or 3 lbs. of antique oil au benzoin.

Pommade à la Graisse d'Ours.

Take—

Huile de rose,
" " fleur d'orange,
" " d'acacia,
" " tubéreuse d'jasmin, of each, ½ lb.
Almond oil, 10 lbs.
Lard, 12 lbs.
Acacia pomade, 2 lbs.
Oil of bergamot, 4 ounces.
" " cloves, 2 ounces.

Melt the solid greases and oil together over a water-bath, and then add the essential oils.

CHAPTER XV.

POMADES BY ESSENCES.

THESE pomades are thus called in distinction to those made by infusion of flowers, or by enfleurage, and when carefully prepared with choice materials, are of excellent quality.

Pommade à la Rose.

Take—

White grease, 1 lb.
Nut oil, 3½ oz.
Spermaceti, or white wax, 1⅓ oz.

Melt together, and add the oil. Pass the warm mixture through a clean cloth, and then stir it in a mortar till cold. If the pomade must be white, add no coloring matter; but if colored, introduce the proper material. For red, soak ½ dr. of powdered orkanet in the oil previously warmed. For yellow, add ¼ or ½ dr. of annotto to the mixture of grease, when melted. Pass through a cloth, and perfume with

Ess. of geranium, 1¼ dr.
" " rose, ¼ dr.
" " canella, 1/16 dr.

Introduce the essences into the grease half fluid.

Another Process.

Take—

Pure white grease, 2 lbs.
Ess. of geranium, 1½ dr.
" " vervcine, ¾ dr.
" " cloves, ¼ dr.

Economical Formula.

Take—

White grease, 2 lbs.
Ess. of bergamot or lemon, 1½ dr.
" " cloves, 1 dr.

Color with orkanet or carmine lake.

Pommade fine à la Vanille.

Take—

White grease, 2 lbs.
Powdered benzoin, 2 oz.

Soak the benzoin in the grease for two hours, and then add—

Tincture of vanilla, 2½ drs.
Ess. of cloves, 1½ dr.
" " lemon, 1½ dr.
" " canella, ½ dr.
Tincture of ambrette, colored with a little catechu, 1¼ dr.

Pommade demi fine à la Vanille.

Take—

Pure white grease without benzoin, 2 lbs.
Ess. of cloves, 1½ dr.
" " lemon, 1½ dr.

Color with cacao, ½ dr.

Pommade à l'Amande Amere. (Bitter Almonds.)

Take—

Pure white grease, 2 lbs.
Natural essence of bitter almonds, 1½ dr.
Ess. of lemon, cedrat, or Portugal, 1½ dr.

Pommade à la Fleur d'Oranger.

Take—

Pure white grease, 2 lbs.
Ess. of neroli, 2 drs.

Color with a little saffron.

Pommade à la Violette.

Take—

Pure white grease prepared with orris root, 1½ lb.
Body of pommade à la violette, ½ lb.

This pomade can also be prepared in the following manner:—

Take—

Pure white grease prepared with orris root, 1 lb.
Pommade à la cassie, ½ lb.
" au jasmin, ½ lb.

Perfume for Ordinary Pomade.

For 212 lbs. of body, use:—

Essence of bergamot, 3¼ lbs.
" " cloves, 3⅓ oz.
Infusion of civet, 3⅓ oz.

After melting the body over a water-bath, introduce the essences, and allow the mass to become cool before bottling.

Parfum d'Œillet.

Take—

Alcohol at 90°, 1 qt.
Extract of violet, 4 oz.
Ess. of clove, 2 drs.
Tincture of benzoin, ½ dr.
" " amber, 1 dr.

Mix, and add—

Eau de roses, 1⅔ oz.
" " fleurs d'oranger, 1 oz.

Parfum Amer à la Rose.

Take—

Essence of bitter almonds, 2 oz.
“ “ bergamot, 8 oz.
“ “ cloves, 1 oz.
“ “ geranium, 5 oz.

Parfum à la Violette.

Take—

Alcohol at 90°, 1 qt.
Orris root, 1 lb.
Extract of cassie, ½ lb.

Infuse for 40 days, then filter, and add—

Extract of jasmin, 1⅔ oz.

Parfum à la Verviene.

Take—

Alcohol at 90°, ½ pt.
Essence of verveine, ½ oz.
“ “ bergamot, 2 drs.
Spirit of citronella, ½ oz.

Parfum d'Orange.

Take—

Alcohol at 85°, 1 qt.
Essence of Portugal, ½ oz.
“ “ bergamot, 2 drs.
Tincture of amber, 1 dr.
Extract of orange flower, ½ lb.

Pommade à l'Héliotrope.

Take—

French rose pomade, 1 lb.
Vanilla oil, ½ lb.
Huile de jasmin, 4 ounces.
" tubéreuse, 2 oz.
" fleur d'orange, 2 oz.
Otto of almonds, 6 drops.
" " cloves, 3 drops.

CHAPTER XVI.

DIVERS POMADES.

UNDER this head are embraced all fancy pomades, *Pommade à la Moelle de Bœuf* (beef marrow), *à la Graise d'Ours* (bear's grease), and all those prepared for the preservation of the hair.

POMADES.

Preparation of Pomades and Oils for the Hair.

For summer pomades, take 4 parts of lard, and 1 of tallow; in winter, lard alone is sufficient. This is to be melted when fresh, being mixed with a large quantity of water to remove the unpleasant smell.

There are two kinds of these pomades—the light and the heavy.

Light pomades are those which are rendered light—that is, increased in volume—by beating. They are made by slightly beating 4 lbs. of grease in a flat dish, kneading it with a piece of wood, and afterwards whipping it until it becomes entirely soft, and acquires twice its original bulk.

The grease is then perfumed and colored.

The ordinary pomade is perfumed with oil of bergamot, orange, a few drops of canella or cloves. For the pommade à la rose, use rose oil, etc.

They are colored red with cinnabar, yellow with annotto, or saffron, by adding the oils. Vanilla and cinchona produce a brown color, and give a very agreeable smell.

Pommade Impériale.

Take—

Pommade double au jasmin, 4 lbs.
" à la fleur d'oranger, 1 lb.
" à la cassie, ½ lb.
" jonquille, ½ lb.
" jacinth, ½ lb.
" lilas, ½ lb.
" réséda, ½ lb.
" tubéreuse, ½ lb.

Melt over a water-bath, keeping apart the jasmin and lilac to be melted last. The pomade being half cooled, perfume with—

Essence of bergamot, 1 oz.
" " vanilla, 1 oz.
Tincture of fenugreck, 1 dr.
Essence of amber, 2 drs.
" " musk, 2 drs.

Give a light greenish shade by adding a little body of green pomade.

Pommade de Flore.

Melt over a water-bath—

Pommade à la rose, 1 lb.
“ à la fleur d'oranger, ½ lb.
“ à la jonquille, ½ lb.
“ au lilas, ½ lb.
“ à la jacinth, ½ lb.
“ à la violette, ½ lb.
“ au cassie, ¼ lb.
“ au jasmin, 2½ oz.

Withdraw from the fire, and perfume with—

Essence of musk, ¼ oz.
“ “ cloves, ½ dr.

Give a fine rose color with orkanet, or a little carmine.

Another method of making this pomade is to mix with a spatula equal parts of the following pomades:—

Jonquille,
Jasmin,
Tubéreuse,
Orange flowers.

This pomade is the best to use.

Pommade de Moelle de Bœuf à l'Ambroisie.

Take 3 lbs. of beef's marrow, melt over a water-bath, and add—

Pommade au seringat, 1 lb.
“ au musc, ½ lb.
“ à la rose, 1 lb.
“ au benzoin, ½ lb.

Perfume with—

Essence of lavender, 2 oz.
" " jasmin, 1 oz.
" " Portugal, 1 oz.

Pommade de Moelle de Bœuf au Baume de la Mecque.

Infuse 6 lbs. of beef marrow, and 2 lbs. of lard body with—

Styrax, 1 lb.
Powdered benzoin, ½ lb.

Then add—

Balsam of Mecca, ½ lb.

Perfume with—

Spirit of ambrette, ½ oz.

Moelle de Bœuf Odorante.

As many prefer to use beef's marrow without any mixture of other fats, this grease should be melted, clarified, and perfumed either with essence of canella, lavender, citronella, or vetivert, etc.

Pommade à la Moelle de Bœuf.

Take—

Pure beef marrow	1¼ lb.
Veal grease	1¼ lb.
Nut oil	2½ oz.
Balsam of Peru	1 dr.
Vanilla	½ dr.

Heat over a water-bath for a half hour, and then pass through a cloth.

Pommade à la Graise d'Ours, aux Feuilles de Noyer.

Melt over a water-bath 6 lbs. of bear's grease, and infuse some fresh well-bruised walnut leaves. After two days, melt again, strain, and renew the infusion with new leaves.

Perfume with—

Essence of thyme, 6 oz.
Bergamot, a few drops.

Pommade Canadienne.

Melt over a water-bath 4 lbs. of bear's grease, and infuse 8 lbs. of rose leaves, as directed for the pommade à la rose. Then strain, and perfume with—

Essence of mint, ½ oz.
" " rose, 1 oz.
" " vanilla, a few drops.

Color rose with a little carmine.

Pommade en Batons. (Stick Pomatum.)

This pomade is generally composed of mutton suet, but is sometimes made of hard body, to which is added, in summer, 1 oz. of wax for every pound of body. Lard body can also be used, but the proportion of wax must be increased. In this preparation, always melt the least fusible body first.

In moulding, care must be taken not to run the pomade while too hot, as cavities will occur in the centre, rendering the sticks liable to break.

To perfume, the usual odors are, for one pound of pomade—

Essence of bergamot, 1 dr.
" " lavender, 1 dr.
" " thyme, 1 dr.
" " orange peel, 1 dr.

Color with annotto or saffron.

Another method of preparing this pomade, also called *cosmetic*, is by melting two parts of tallow and one part of wax, in sheet-iron moulds, the size desired for the stick, the mass having been perfumed and colored.

Pommade du Cameleon de six Couleurs.

This pomade is very easily manufactured. Into a white glass pot run first a layer of *pommade à la vanille*, light chocolate color; when cold, run upon that a layer of *pommade à la rose;* upon this, again, when cold, a layer of *pommade à la jonquille*, tinted with juice of marigold. Make the fourth layer with *pommade aux pois de senteur*, of violet color, and finish with a snow-white deposit of *pommade à la fleur d'orange.*

This pomade can be made of twenty different appearances; for example:—

1st DEVIATION.

1st layer. Pommade d'ambre, light gray.
2d " " à l'héliotrope, lilac.
3d " " au muguet, white.
4th " " à la jacinthe, blue.
5th " " au musc, pale red.
6th " " de chypre, red.

2d DEVIATION.

1st layer. Pommade à l'œillet, scarlet.
2d " " à la bergamote, lemon.
3d " " au réséda, green.
4th " " à la tubéreuse, flesh color.
5th " " à l'orange, yellow.
6th " " à la violette, violet.

Pommade des Francs de Dissey and Pivert.

Take prepared beef marrow, 2 lbs.
Oil of noisette, 25½ ounces.
Genuine bear's grease, 17 ounces.

Melt over a water-bath, remove from the fire, and add 34 ounces of good brandy. Mix thoroughly, and while the mass is still liquid, perfume with—

Essence of bergamot, 7½ drs.
" " rose, 3¾ drs.
" " clove, 3¾ drs.
" " cinnamon, 2 drs.
" " mace, 2 drs.

2. *Extracts of Pomades.*

These pomades are distinguished by perfumers as *fine*, *superfine*, *extra fine*, *double*, and *double fine extracts.* These names indicate the amount of care, and the number of infusions or enfleurages used in their preparation. The extra fine are obtained by the union of the two processes.

Extract de Pommade à la Rose.

Take 6 lbs. of a selected body composed of pure lard and white wax, and infuse in 6 lbs. of pale roses. Spread the pomade on frames, and enflower with tea roses.

Extrait de Pommade Romaine à la Giraflée, au Jasmin, etc.

Operate as above—1st, by infusion; 2d, by enflowering—and thin with oil perfumed by the flowers employed.

Pommade Concrete à toutes Odeurs.

This is a semi-liquid Roman pomade, made of oil and fat in equal proportions. It is put up in glass bottles.

Pommade Noire au d'Ebene de toutes Odeurs.

Melt over a water-bath—

White wax, 1 lb.
Imperial pomade, 3 lbs.

Add 6 ounces of finely powdered ivory black. Mix thoroughly, and strain.

Circassian Cream.

Take—

Purified lard, 1 lb.
Benzoin suet, 1 lb.
French rose pomade, ½ lb.
Almond oil colored with alkanet, 2 lbs.
Otto of rose, ¼ ounce.

Balsam of Flowers.

Take—

French rose pomade, 12 ounces.
" violet pomade, 12 ounces.
Almond oil, 16 ounces.
Otto of bergamot, ¼ ounce.

Crystallized Oil.

1*st quality.* Take—

Huile de rose, 1 lb.
" tubéreuse, 1 lb.
" fleur d'orange, ½ lb.
Spermaceti, ½ lb.

2*d quality.* Take—

Almond, 2½ lbs.
Spermaceti, ½ lb.
Otto of lemon, 3 ounces.

Melt the spermaceti over a water-bath, add the oils, heat till all flocks disappear, and let it cool in the jars as slowly as possible.

Pommade d'Huile de Risin.

Take—

Pommade à la tubéreuse, 1 lb.
Castor oil, ½ lb.
Almond oil, ½ lb.
Otto of bergamot, 1 ounce.

Balsam of Neroli.

Take—

French rose pomade, ½ lb.
" jasmin pomade, ½ lb.
Almond oil, ¾ lb.
Otto of neroli, 1 dr.

Marrow Cream.

Take—

Purified lard, 1 lb.
Almond oil, 1 lb.
Palm oil, 1 lb.
Essence of cloves, ½ dr.
" " bergamot, ½ oz.
" " lemon, 1½ oz.

Marrow Pomatum.

Take—

Purified lard, 4 lbs.
" suet, 2 lbs.
Otto of lemon, 1 ounce.
" bergamot, ½ ounce.
" cloves, 3 drs.

Pommade à l'Huile Essentielle des six Fruits.

Take a good pure white body, composed of 8 lbs. of lard and 4 lbs. of mutton suet, and incorporate—

Essential oil of cedrat, 2 oz.
" " bergamot, 2 oz.
" " orange, 2 oz.
" " " of Portugal, 2 oz.
Oil of limon, 2½ oz.
" lemon, 3 oz.

CHAPTER XVII.

PHILOCOMES AND COSMETICS.

PHILOCOMES and cosmetics are composed in winter, of equal parts of lard and earth-nut oil, and in summer, of two parts of grease and one part oil. The greases are melted over a water-bath, and passed through a cloth. When the products begin to solidify, the oils are added, and the mass is then run into jars or bottles. For the fine philocomes, the pommades à la rose, orange flower, au bouquet, geranium, à la tubéreuse, etc., are substituted for the lard.

Philocome Moelle de Bœuf.

Take—

Fat, 10 lbs.
Pommade à la rose, 5 lbs.
“ aux millefleurs, 1 lb.
Oil of cassie, 2 lbs.
“ jasmine, 2 lbs.
Spirit of roses, $1\frac{2}{3}$ ounce.
“ bergamot, 5 drs.
“ petit grain, $2\frac{1}{2}$ drs.
“ geranium, $2\frac{1}{2}$ drs.
“ wintergreen, 4 drs.
Infusion of cinchona, 5 drs.
Pure rum, 10 drs.
Essence of roses, 5 drops.

Philocome à la Violette.

Infuse ½ lb. of powdered orris root in 2 lbs. of white grease. Continue the infusion nine days. Melt again, and pass through a cloth. Then add, for every 2 lbs. of grease—

Pommade au jasmin, 6½ ounces.
“ à la rose, 3½ ounces.
Essence of bitter almonds, 1 dr.
“ “ amber, 1 dr.

Philocome dur à la Violette.

Take—

Beef suet, 14 lbs.
Grease, 6 lbs.
Pommade cassia, 15 lbs.
“ à la fleur d'oranger, 2½ lbs.
“ au jasmin, 2½ lbs.
Orris body, 7 lbs.
Benzoin body, 2 lbs.
Essence of bergamot, 1⅔ ounce.
“ geranium, 2½ drs.
“ lemon, 8 drs.
“ scintal, 4 drs.
“ petit grain, 8 drs.
“ rosemary, 1 dr.

Philocome dur au Bouquet.

Take—

Beef body, 16 lbs.
Lard, 16 lbs.
Pommade à la fleur d'oranger, 8 lbs.
  " " rose, 5 lbs.
  " au cassia, 5 lbs.
Body of styrax, 3⅓ ounces.
Peruvian oil, 3⅓ ounces.
Essence of orange or lemon, 5 drs.
  " bergamot, 10 drs.
  " geranium, 2½ drs.
  " petit grain, 4 drs.
  " cloves, 5 drs.
Infusion of balsam of Tolu, 6 drs.
  " styrax, 4 drs.

Philocome dur à la Mousseline.

Take—

Beef body, 14 lbs.
Lard, 10 lbs.
Pommade à la rose, 4 lbs.
  " l'orange, 6 lbs.
  " tubéreuse, 2 lbs.
  " cassia, 2 lbs.
Body of musk, 2 lbs.
  " benzoin, 25 ounces.
  " Tolu, 4 ounces.
  " styrax, 4 ounces.
Balsam Peru, 5 drs.
  " Tolu, 8 drs.
Infusion of vanilla, 5 drs.

Essence of bergamot, 5 drs.
" wintergreen, 2½ drs.
" bigarade, 1 dr.

Philocome Fleurs de Mai.

Take—

Hard body of beef, 15 lbs.
Lard, 15 lbs.
Pommade cassia, 7½ lbs.
" orange, 7½ lbs.
" rose, 2½ lbs.
" jasmin, 2½ lbs.
Body of benzoin, No. 1, 2 lbs.
" styrax, 1¼ lb.
" Tonka butter, 10 ounces.
" balsam of Tolu, 2 lbs.
Essence of bergamot, 6 drs.
" cloves, 9 drs.
" geranium, 4 drs.
" rose, 1 dr.
" bitter almonds, 4 drs.
" Portugal, 4 drs.
Balsam of Peru, 10 drs.

Philocome à la Vanille.

Infuse for one week 2 ounces of vanilla in 2 lbs. of perfectly pure white grease. Then melt again, pass through a cloth, and add the same weight of earth-nut oil. For the fine philocomes, mix in equal parts the grease thus prepared, with an infusion of oil of vanilla prepared in the same way as the grease, that is, by infusing 2 ounces of vanilla for every 2 lbs. of oil. Add to the mixture—

Pommade, or huile à la rose, 6½ oz.
" " au jasmin, 3¼ oz.
" de Tonka (prepared by the infusion of 4 oz. of Tonka beans in 2 lbs. of white grease), 3¼ lbs.

Philocome à l'Héliotrope.

This philocome is prepared in the same manner as the above, except that only ½ a dr. of natural essence is required for every 2 lbs. of grease.

Philocome au Quinquina.

Take—

Oil of sweet almonds, 30 ounces.
Beef marrow, 8 ounces.
Alcoholic extract of cinchona, 5 drs.
Balsam of Peru, 1 dr.
Essence of bergamot, 1 dr.

Effect the mixture of the sweet almond oil with the marrow by fusion over a water-bath. Then add the alcoholic extract of cinchona, and the balsam of Peru; then the bergamot.

Philocome au Geranium.

Take—

Pure white grease, 1 lb.
Earth-nut oil, 1 lb.
Essence of geranium, 2½ drs.

Philocome à l'Œillet.

Take—

Pure white grease, 1 lb.
Earth-nut oil, 1 lb.
Essence of cloves, 2 drs.
“ geranium, ½ dr.

Philocome au Portugal.

Take—

Pure white grease, 1 lb.
Earth-nut oil, 1 lb.
Essence of Portugal, 1 dr.
“ lemon, 1 dr.

Color with 8 grs. of annotto.

Philocome à la Rose.

Take—

Pure white grease, 1 lb.
Earth-nut oil, 1 lb.
Essence of roses, 2½ drs.
“ geranium, 1 dr.

Color yellow with ½ a dr. of annotto, or rose with ¼ a dr. of carmine.

Philocome aux Fleurs Melangées.

Oil of enfleurage with mixed flowers, 1 lb.
White wax, 2½ oz.

Philocome Huile Crystallisée.

Take—

Oil of enfleurage of flowers, 1 lb.
Spermaceti, 1⅔ oz.

Cosmetique Violette Blanche.

Take—

White wax, 6½ ounces.
Hard body cassia, 6½ ounces.
" " tubéreuse, 6½ ounces.
" " orris, 13 ounces.
Essence of bergamot, 1½ ounce.
" geranium, 1 dr.

Manipulate this cosmetic in the same manner as the pomades. Melt it in sheet-iron tubes. It must be run into moulds, when nearly ready to solidify.

Cosmetique Violette. (Lubin.)

Take—

Yellow wax, 2 lbs.
Hard body orris, 4 lbs.
" cassia, 4 lbs.
" violet, 3 lbs.
" tubéreuse, 1 lb.
" rose, 1 lb.
Pommade au jasmin, 2 lbs.
Essence bigarade, 2½ drs.
" geranium, 2½ drs.
" bergamot, 14 drs.

Cosmetique Vanille. (Lubin.)

Take—

White wax, 4 lbs.
Hard body benzoin, 6 lbs.
" rose, 2 lbs.
Tonka, 1 lb.

Cocoa, 1 lb.
Body of musk, 23½ ounces.
" vanilla, 4 lbs.
Essence geranium, 2½ drs.
" cloves, 1 dr.
" roses, 1 dr.

Cosmetique Moelle de Bœuf.

Take—

Yellow wax, 3 lbs.
Hard body beef, 9 lbs.
" rose, 3 lbs.
" jasmin, 3 lbs.
" cassia, 3 lbs.
" orange, 3 lbs.
Pommade aux fleurs d'Italie, 1 lb.

Cosmetique à la Violette Ordinaire.

Take—

Hard body of beef, 6 lbs.
Yellow wax, 4 lbs.
Hard body cassia, 6 lbs.
" orris, 2 lbs.
" rose, 2 lbs.
Pommade au réséda, 2 lbs.
Essence of bigarade, 1 dr.
" geranium, 1 dr.
" bergamot, 14 drs.

Cosmetique à la Violette. (Lubin.)

Take—

Yellow wax, 4 lbs.
Hard body cassia, 4 lbs.
“ orris, 4 lbs.
“ violet, 4 lbs.
“ jasmin, 6 lbs.
“ tubéreuse, 2 lbs.
Essence of bergamot, 3½ oz.
“ geranium, 1 dr.
“ bigarade, 1 dr.

Cosmetique à la Vanille.

Take—

White wax, 3 lbs.
Hard body of benzoin, 8 lbs.
“ beef, 4 lbs.
White cocoa, 1 lb.
Tonka, 1 lb.
Body of musk, 1 lb.
Hard body, à la rose, 1 lb.
“ “ vanille, 2 lbs.
Essence of roses, a few drops.
“ geranium, a few drops.

Cosmetique à la Violette de Parme.

Take—

Yellow wax, 6½ ounces.
White wax, 6½ ounces.
Hard body cassia, 16 ounces.
“ tubéreuse, 6½ ounces.
“ rose, 6½ ounces.
“ violet, 4½ lbs.

Bandaline.

Take—

Water, 30 ounces.
Alcohol at 80°, 10 ounces.
Gum, 1 ounce.

Leave 24 hours; then macerate, and perfume with a few drops of essence of lemon.

Eau Collante.

Infuse ½ lb. of gum Arabic in one quart of river or rose-water, and digest several days, stirring from time to time. Filter through paper.

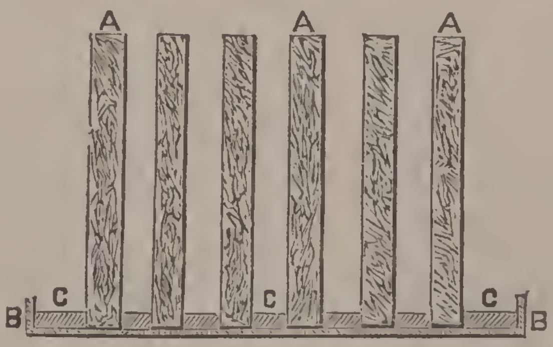
Cosmetic to Smooth and Fix the Hair.

Take—

Beef or calf suet, 3½ ounces.
White wax, 5 drs.

Effect the fusion of the suet and wax over a water-bath, and, when the mass begins to cool, perfume with ¼ dr. ess. of Portugal, or lemon, or rose. Then run it into little cylindrical moulds of sheet-iron.

Fig. 26.



A A. Moulds of sheet-iron.
B B. Sheet-iron plates on which the moulds A A are placed vertically.
C C C. Bed of solidified wax.

These moulds are open at both ends, one of which is fixed on a horizontal plate, on which is run a bed of wax, about one-third of an inch thick. The wax, in cooling, shuts the lower part of the mould, and prevents the running out of the cosmetic.

Each plate contains from 36 to 48 moulds, which are 5 or 6 inches high, and have an internal diameter varying from ⅔ to 1 inch.

Pommade Noire en Baton.

Prepare this pomade in the usual way, using ⅓ of wax, instead of ¼ in winter, and ½ in summer. When cool enough, mould it in the forms.

Pommade Brune et Chataigne en Batons.

Proceed as before, using powdered amber instead of ivory black.

Pomade to Blacken the Hair.

Take—

Nitrate of silver, 2 drs.
Cream of tartar, 2 drs.
Liquid ammonia, 4 drs.
White grease, 5 drs.
Essence of Portugal, 2 drs.

Rub the whole together in a marble mortar.

The use of this pomade is dangerous.

Pommade Hongroise for Moustaches.

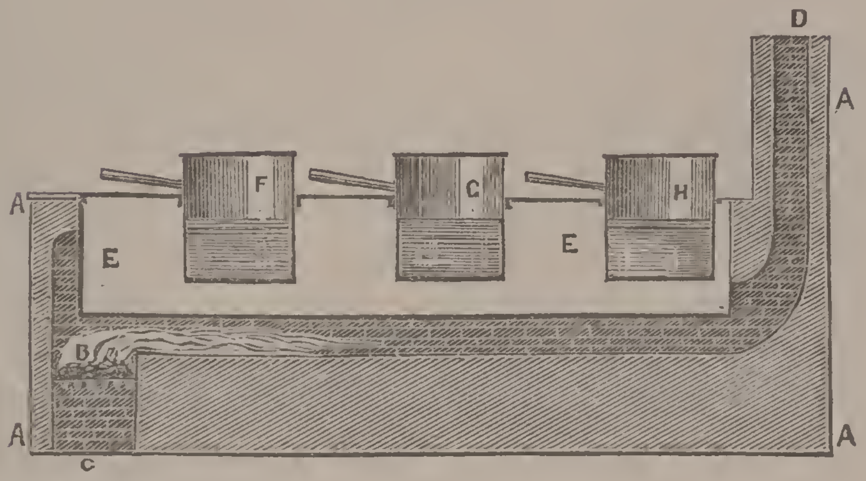
Take—

White wax, 1 lb.
Oil soap, ½ lb.
Gum, ½ lb.
Rose-water, ¼ pt.
Essence of bergamot, 1 ounce.
 " thyme, 1 dr.

We close this section with the description of a furnace which we can recommend to the perfumer.

Furnace with Hot Air to melt Pomades and Philocomes.

Fig. 27.



A A A A. Masonry work.
B. Hearth, with grate.
C. Ash pan.
D. Chimney.

E E. Boxes of sheet-iron, having at the top three cylindrical apertures, in each of which is placed a pan containing the pomade or philocome that is to be melted. The diameter of these pans is a little less than that of the apertures, so that they can be easily introduced in the box, and can be taken out after each operation. At two-thirds of their height they have a strong edge which prevents their going to the bottom of the box.

To put this furnace in operation, light the fire on the hearth B. The flame circulates around the bottom and edges of the box, and rapidly heats the water it contains. Then introduce the pans F G H into the aperture.

When the substances they contain are melted, mould in the ordinary way.

This plan enables the perfumer to manufacture different kinds of pomades at the same time, without the inconveniences that attend heating by a direct fire or by a water-bath.

SECTION IV.

ALMOND OILS—PERFUMED OILS, CALLED HUILE ANTIQUES.

It may seem to the reader that almond oils should be treated of under the head of almond paste; but as these and similar oils are rare materials in the preparation of perfumed oils, or *oils aux fleures*, we have concluded to give them a place in this section.

These last oils differ entirely from the essential oils, in not being prepared by distillation. They are the oils of sweet and bitter almonds, filberts, ben oil, and more particularly olive oil, charged with the fragrance of flowers in the same manner as that employed for perfuming the pomade.

CHAPTER XVIII.

ALMOND OILS OBTAINED BY EXPRESSION.

Oil of Sweet Almonds.

Select sound, fresh almonds; reject all the rancids, and separate carefully all foreign matters. Then place them in a bag and shake them, to detach the fine yellow dust adhering to the cuticle. Sieve them, and reduce to a paste in a mill. Fill up bags with this paste, and submit them to a strong but gradual pressure between plates slightly heated. Filter the oil thus obtained, and preserve it from contact with the air.

This oil is of a bright yellow color, and has a slight and mild odor of the almonds. It easily becomes rancid, and thickens.

To obtain a handsomer and whiter product, first scald the almonds and stir them until the peels are detached. Then drain, and plunge them into cold water. Pick the skins, dry them, and proceed as before.

The deposit which remains in the bag after the pressure, is useful in the preparation of almond paste for whitening the hands. 100 lbs. of almonds yield about 44 lbs. of oil.

There are three kinds of oil of nuts, and as many corresponding pastes.

1. *Oil of Peach*

Or *apricot kernels* alone, or mixed with oil of bitter almonds. *Pate d'amande bise.* The kernels must not be heated.

2. *Fine Oil of Sweet Almonds.*

Pate d'amande amere blanche. Heat the almonds with boiling water.

3. *Oil of Bitter Almonds.*

The peeled nut yields 20 per cent. of oil. *Pate d'amande amere blanche.* Use the same process as for sweet almonds. The peculiar odor of the bitter almonds is prejudicial to certain perfumes, such as jasmin, jonquille, tubéreuse, etc., but may be well employed with the essences of the rind of fruits, such as bergamot, lemon, cedrat, etc., and with all the aromatic essential oils.

Artificial Oil of Bitter Almonds, or Essence of Mirbane.

Take—

Purified benzoin, 2 lbs.
Monohydrated nitric acid, 2 lbs.
Sulphuric acid, 1 lb.

Mix the nitric and sulphuric acids in a retort of six qts. capacity. Adapt to this retort a cork pierced with two holes. Through one of these holes pass a tube at least one yard in length, for the disengagement of the gas, and through the other a tube terminated by a funnel. Pour the benzine by degrees through the funnel, slightly shaking the balloon each time. The operation is perfected, when the essence has a golden yellow color, at a temperature of 59°. It takes three or four hours; the longer it is, the better the result. Decant the liquid, wash it several times with water, and filter. It can be used to manufacture yellow soap with bitter almonds.

The essence of mirbane is now used in perfumery, instead of the natural oil of bitter almonds. For more particulars on this subject, see the *Treatise on Coal Tar Colors*,* article "Nitro-Benzine."

Oil of Hazel Nuts,

Also called *huile d'anelines*, or *de noisettes*, is prepared in the same manner as the oil of sweet almonds. This oil keeps well, and is a good substitute for oil of ben. A *pate d'anelines* may also be prepared.

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* Philadelphia, Henry Carey Baird, Publisher.

Oil of Ben.

This oil is perfectly insipid and inodorous, is remarkable for not becoming rancid by age, and is used for extracting the fragrance of certain flowers. It is obtained from the *mohringa aptera* by expression.

Oil of Eggs.

Harden 3 or 4 dozen eggs, seven or eight days old; reduce the yelks to powder with the hand, and put them into a vessel over a gentle fire, stirring all the time with a spatula, till they redden a little, and begin to skim. Put them in a linen cloth bag, and then press them.

This oil is used principally for cosmetic preparations.

CHAPTER XIX.

MODE OF SIMULTANEOUSLY SCENTING THE OILS AND PASTES OF NUTS.

Oil à la Fleur d'Orange.

Take 8 lbs. of good peeled almonds, ground into paste, and 1½ lb. of orange flowers. Place a layer of the paste in a tin box or a stoneware vessel, then add a layer of flowers, and so continue till all the material has been thus stratified. Close the vessel for two days, then remove the mass, and pass it through a fine sieve to separate the flowers. Renew this operation five or six times, observing the same arrangement, and using fresh flowers each time. After the last inlaying of the flowers and separation from the paste, put the mass in bags, and submit it to a press.

The oil which runs out is an excellent perfume, and after reposing some time, can be decanted clear.

The paste thus obtained is strong in perfume. When dry, it can be powdered and mixed with some other pastes. Care must be taken, however, to preserve it in close vessels.

In this manner, the oil and paste of several other kernels can be aromatized simultaneously, thus saving time and perfume.

Oil au Jasmin.

This oil is obtained by the same process as above, but the jasmine being weaker in odor, and consequently in essential oil than the orange flower, it is necessary to use 2 lbs. of flowers to every 8 lbs. of paste.

Tuberose and acacia can be manipulated in the same manner.

CHAPTER XX.

OILS PERFUMED BY INFUSION.

The rose, orange flower, acacia, syringa, and tuberose may be infused in fresh oil, liquefied by the heat of a water-bath in the same manner as in the pomades.

Oil à la Rose de Provins.

Take 1 lb. of rose leaves for 1 lb. of pure olive oil. Heat the oil over a water-bath, and infuse the flowers for a half hour or more. Remove from the fire, and after 24 hours, stirring during that interval, separate the flowers by means of a sieve and expression. Place the pressed leaves aside, and prepare the oil, already perfumed, for another similar operation. Repeat the operation six or seven times, using fresh flowers each time.

Finish the operation by coloring with carmine, if the oil is too pale, and put into vials.

CHAPTER XXI.

OILS PERFUMED BY ENFLEURAGE.

THIS mode requires the purest and freshest olive oil.

After having cleansed the chest of frames, cover them with several thicknesses of dry white muslin. Then select flowers freshly gathered, without moisture. Remove all the green parts, and commence the operation.

1st. Take the cloths by the four corners, and dip them in the oil, press them lightly with the hands, and hitch to the frames.

2d. Put on each cloth a thin stratum of flowers, placed so that the superior part or top of the petals is next to and touching the cloth, and the lower part projecting upwards. The perfume is thus concentrated between the corolla and the cloth, and not being able to escape, naturally penetrates through, and is absorbed by the oil.

3d. After 24 hours, remove the flowers with a pair of pincers. Repeat the operation with fresh flowers as often as is required to sufficiently charge the oil with perfume.

4th. Take out the cloths, fold them, and press until dry. The first part of the operation generally requires from eight to nine days.

The operation may be done in less time by adding essential oil to the flower.

Oils Perfumed by a Current of Vapor.

M. Pivert has taken out a patent for collecting the perfume of flowers. By means of a pump, he passes a strong current of air on fresh flowers contained in a receiver. The air then passes into a cylinder full of oil, which is constantly agitated. The odoriferant molecules in contact with the oil are absorbed, and those which escape are taken up by a second cylinder, so that the air which escapes is odorless. In order, however, that nothing may be lost, the same air passes again over the flowers, till all the odor is extracted. The power of this current is such that it takes from these waters, even dry, a certain quantity of water which has the odor of the flowers to a strong degree.

Oil à la Clematite Cultivée.

This flower, the odor of which can be assimilated to that of orange flower, is worked in the manner aforesaid. If the operation fails, a small portion of neroli remedies the defect, and transforms it into *oil à la fleur d'orange.*

Oil au Chevre-Feuille.

Select the ripe and red honeysuckle, the flowers of which are abundant. Instead of olive oil, use oil of ben.

Oil à l'Aubepine. (Hawthorn.)

This flower is not much recommended, because it soon becomes disagreeable when a little too concentrated. Nevertheless, by alternate strata of muguet, hyacinth, and hawthorn, an agreeable perfume can be obtained.

Oil au Bouquet de Flore.

The process for this oil is similar to that for the *pommade aux fleurs d'Italie.* The jonquil, hyacinth, lilac, lily, rose, sweet William, gilliflower, and mignonette, are equally applicable for the purpose.

CHAPTER XXII.

OILS OF COMPOSITION.

Oil aux Violettes de Parme Composée.

Mix together—

Oil de noisette, 1 lb.
" à l'acacia, ½ lb.
" au jasmin, ½ lb.

Oil à l'Œillet de Ratafia Composée.

Mix together—

Huile d'amandes amere (bitter almonds), 1 lb.
" à la fleur d'orange, ½ lb.
Essential oil of cloves, ½ lb.

Oil à l'Héliotrope du Perou Composée.

Infuse for five days, 2 ounces of balsam of Peru in 2 lbs. of good olive or sweet almond oil, stirring frequently. Decant and add—

Oil au jasmin, 4 ounces.
" à la rose, 2 ounces.
" of bitter almonds, 2 ounces.

To render stronger and more agreeable, add—

Oil à la vanille, 4 oz.
" à l'ambre and au musk, 2 oz.

Oil de Millefleurs ou de Bouquet Composée.

To make about four pounds, mix together—

Oil au jasmin, 1 lb.
" à la rose, 1 lb.
" à l'acacia, ½ lb.
" à la fleur d'orange, ½ lb.
" à la tubéreuse, ½ lb.
" à la jonquille, ¼ lb.
" à la jacinthe, ¼ lb.
" à la vanille, ¼ lb.
" essential, of cloves, ½ ounce.

To render the oil more energetic, add—

Oil ambrée and musquée, ¼ lb.

Oil au Pot Pourri Composée.

This oil is the same as the above, with the addition of ½ an ounce essence of bergamot, and 6 drops essence of thyme.

CHAPTER XXIII.

OILS PERFUMED WITH ESSENCES.

Oil à la Bergamotte, Citron, or Cedrat.

Take 1 lb. of pure oil, and add 2 ounces of essence of bergamot. If the oil of sweet almonds is used, it requires 2½ ounces to the pound.

The same proportion for lemon and cedrat oils.

Oil de Portugal.

Take 1 ounce of essence of Portugal for 1 pound of oil.

Oil de Neroli and de Petit Grain.

Take—

Olive oil, 1 lb.
Oil of petit grain or neroli, 2 to 4 drs.

Oil à la Lavande or à la Marjolaine.

Take—

Olive oil, 1 pound.
Essence of lavender or marjolaine, 2 drs.

Allow it to settle, and filter through a paper.

Oil à la Menthe, au Thym, Serpolet.

Operate as above.

These oils can also be prepared by infusion, by leaving the flowers of mint, thyme, etc., in contact for 15 or 20 days with the oil, in the proportion of 5 or 6 ounces to the pound, and then clarifying.

CHAPTER XXIV.

OILS PERFUMED WITH SPIRITS OR TINCTURES.

OILS scented with essences can be sold at low prices, and command a good market, but oils scented with spirits or tinctures will shortly be in greater demand.

Perfumers thus obtain oils *au Benzoin*, *Balsam of Peru*, *Musk*, *à l'Ambre*, *à la Canelle*, *au Civet*, *Cloves*, *Mace*, *Sandal*, *à la Vanille*, *au Styrax*, etc., with little trouble and expense.

M. Pierlot has indicated the following method for extracting the perfumes of all aromatic vegetables:—

Put the fresh plants into a displacing apparatus, and cover them with ether, which expels the vegetation water, and retains the aromatic volatile principles. The displaced water passes to the lower part of the funnel, holding in solution the extractive matter, albumen, and some salts. As the water is drawn off, supply its place with ether, and when the latter no longer displaces water, press the plant, and treat once more with water. Then collect the ether, and distil it over a water-bath at 86°. This distillation renders the ether nearly colorless, and yields a residuum formed of a slightly bluish essential oil and a greasy, resinous matter of a greenish-yellow color, having all the scent of the plant.

The water of vegetation is shaken with a little alcoholized ether, which coagulates the albumen; this is then separated by filtration, and the extractive matter is obtained by evaporation.

We now present a number of formulæ for oils of composition scented with essences, spirits, or tinctures.

Oil Lavande Mitcham.

Take—

Infusion of ambrette with oil of ben, 4 lbs.
  " of orris, 5 lbs.
  " musk, ½ lb.
  " amber, ½ lb.
  " vanilla, 1 lb.
Oil de miel d'angleterre, 6 lbs.
  " essence bouquet, 3 lbs.
  " de chypre, 1 lb.
  " d'olives, 4 lbs.
Essence lavender, 3½ ounces.
  " bergamot, 1½ ounce.

Dissolve the essences in the olive oil, stirring well. Mix all the ingredients, and expose to a gentle heat, stirring often. After eight days, filter.

Oil Réséda.

Take—

Oil violet, 12 lbs.
  " cassia, 12 lbs.
  " jasmin, 4 lbs.
  " rose, 4 lbs.
Infusion of orris root with oil of ben, 2 lbs.
  " musk, 2 ounces.
Essence neroli, 1½ ounce.
  " geranium, ½ ounce.

Operate as above.

Oil Millefleurs.

Take—

Oil au jasmin, 4 lbs.
" à la fleur d'oranger, 4 lbs.
" à la lavandre, 2 lbs.
" au miel d'angleterre, 4 lbs.
" mousseline, 4 lbs.
" essence bouquet, 4 lbs.
Infusion of héliotrope with oil of ben, 2 lbs.
" orris root, 2 lbs.
" cloves, 2 lbs.
" styrax, ¼ lb.
" storax, ¼ dr.
" Tolu, ¼ lb.
Olive oil, 4 lbs.
Essence of Portugal, ¼ lb.

Operate as above.

Oil Pré Fleure.

Take—

Oil d'ambroisie, 4 lbs.
" de lavandre, 4 lbs.
" essence au bouquet, 4 lbs.
" de pois de senteur, 4 lbs.

Operate as above.

Oil d'Œillet.

Take—

Oil au jasmin, 8 lbs.
" à la rose, 8 lbs.
" fleur d'oranger, 2 lbs.
" tubéreuse, 2 lbs.

Infusion of cloves, with oil of ben, 4 lbs.
" musk, 2½ ounces.
" vanilla, 2½ ounces.
" Tolu, 2½ ounces.
Essence of Portugal, 2½ drs.
" cloves, 5 drs.
" neroli, 2½ drs.
Olive oil, 4 lbs.

Operate as above.

Oil Fleur de Pecher.

Take—

Oil de fleur d'oranger, 1 lb.
" d'olive, 6½ oz.
Essence of bitter almonds, 1 dr.
" lemon, 1 dr.
Infusion of balsam of Peru with oil of ben, 2½ drs.

Oil Vanille.

Take—

Infusion of vanilla, 2 lbs.
" balsam Tolu with ben oil, ½ lb.
" amber and musk, 2 ounces.
Oil of roses, 6½ ounces.
" olive, 6½ ounces.

Oil Mielle d'Angleterre.

Take—

Tincture vanilla with oil of ben, 2 lbs.
Infusion of orris root, 2 lbs.
Oil à la tubéreuse, 6 lbs.
" au jasmin, 6 lbs.

Infusion of benzoin with oil of ben, ¼ lb.
" musk, 1 ounce.
" amber, 1 ounce.
" civet, 2½ drs.
Essence of roses, 5 drs.
" cloves, 4 drs.
" bergamot, 8 drs.

Oil Jacinthe.

Take—

Oil of jacinth, 2 lbs.
" à la fleur d'orange, 1 lb.
Tincture of benzoin with oil of ben, 1 dr.
" amber, 1 dr.

Oil Mousseline (extra fine).

Take—

Oil miel d'angleterre, 24 lbs.
" essence de bouquet, 12 lbs.
" à la fleur d'orange, 12 lbs.
Tincture mousseline with ben oil, 18 lbs.
" ambroisie, 6 lbs.
" chypre, 12 lbs.
" vanilla, 6 lbs.
" musk, 6 lbs.
" lavender, 6 lbs.
Essence of roses, ¼ lb.
" pepper, ¼ lb.
" canella, ½ ounce.

Oil Essence Bouquet.

Take—

Oil de jasmin, 27 lbs.
" à la tubéreuse, 13 lbs.
" à la rose, 23 lbs.
" à la fleur d'orange, 9 lbs.
" cassia, 6 lbs.
" lavendre, 7 lbs.
Infusion of orris root with oil of ben, 18 lbs.
" vanilla with oil of ben, 6 lbs.
" Tolu with oil of ben, 2 lbs.
Essence of Portugal, 1 lb.
" bergamot, 2¼ lbs.
" rose, 5½ ounces.
" geranium, 5½ ounces.
" citronella, 1 ounce.

Oil Fleurs d'Italie.

Take—

Oil au jasmin, 4 lbs.
" à la cassie, 4 lbs.
" rose, 4 lbs.
" l'essence bouquet, 6 lbs.
" à la tubéreuse, 4 lbs.
" fleur d'orange, 4 lbs.
" mousseline, 4 lbs.

Oil Tubéreuse.

Take—

Oil à la rose, 1 lb.
" tubéreuse, 2 lbs.
Infusion of Tolu in oil of ben, ½ lb.
" amber, 1 dr.

Oil Maréchale (extra fine).

Take—

Oil au jasmin, 1 qt.
" à la fleur d'orange, 1 qt.
" à la tubéreuse, 1 qt.
" cassie, 1 qt.
Tincture maréchale with oil of ben, 2 qts.
" amber, 4 ounces.
" musk, 2 ounces.

Oil fine Violette de Parme.

Take—

Oil of violet, 7 lbs.
" orris root, 2 lbs.
" jasmin, 1½ lb.
" cassia, 1½ lb.

Oil fine Macassar.

Take—

Oil olive, 10 lbs.
" rose, 5 lbs.
" fleur d'orange, 3 lbs.
" cassia, 2 lbs.
Essence of bergamot, ¼ lb.
" canella, 1¾ ounce.
" cloves, 1½ ounce.
Oil of orkanet, q. s.

Perfume for Fine Violet Oil.

Take—

Essence bergamot, 4 drs.
" bigarade, 2½ drs.
" sandal, 1 dr.
" geranium, 1 dr.
Infusion of musk, 4 drs.
" civet, 1 dr.

Perfume for Fine Vanilla Oil.

Take—

Essence of cloves, 4 drs.
" bergamot, 4 drs.
" bitter almonds, 1 dr.

Oil Rose, Fine.

Take—

Oil à la rose, 16 lbs.
" olive, 8 lbs.
Essence rose, 1 dr.
" cloves, 2½ drs.
" geranium, 1 dr.

Oil Athenienne (extra fine).

Take—

Oil au jasmin, 8 ounces.
" à la rose, 4 ounces.
" jonquille, 4 ounces.
" violette, 4 ounces.
" tubéreuse, 4 ounces.
" au réséda, 4 ounces.
" à la fleur d'orange, 4 ounces.

Oil à la cassia, 4 ounces.
Tincture of amber in ben oil, ¼ ounce.
" de benzoin vanillé, ¼ ounce.
Essence of cloves, ½ dr.
Tincture of cloves in ben oil, 2 drs.
Essence of bergamot, 2 drs.
" thyme, ½ dr.

CHAPTER XXV.

AMBROSIAL OILS.

Oil à l'Ambre.

Take—

Black amber, 1 dr.
Ambergris, incorporated with a few drops of sweet almonds, 2 drs.

Bruise in a mortar, and add, gradually, 1 lb. of oil of sweet almonds. Infuse for 12 days, stirring from time to time. When the oil is sufficiently scented, leave it to settle; then decant, and filter through paper.

Oil au Musc.

Operate as above, but instead of amber, use 2 drs. of musk, and ½ a dr. of amber of benzoin.

Oil à la Civette.

Take—

Civet, 1 dr.
Amber, 1 dr.
Musk, ½ dr.
Oil, 1 lb.

Operate as above.

Oil à l'Ambre et au Musc.

Take—

Amber, 2 drs.
Musk, ½ dr.
Oil, 1 lb.

Manipulate as above.

CHAPTER XXVI.

EXTRACT OF ANTIQUE OILS.

Extrait d'Huile aux Fleurs de Catalpa.

Take of the catalpa flowers, when they are sweet and abundant (in August), and enflower therewith an oil prepared *à l'acacia*, but weakly scented. These two perfumes harmonize perfectly.

Extrait d'Huile à l'Hémérocalle.

Enflower the oil *à la fleur d'orange*, with four layers of day lilies. The operation ought to be prompt. This extract should be of a beautiful whiteness.

Extrait d'Huile au Jasmin—Jonquille.

Infuse the flowers of jasmine in the oil of ben. Then enflower with the fragrant flowers of the jasmine and jonquille. Color it of a light yellow tint.

Extrait d'Huile à l'Oreille d'Ours, à la Violette, and other Flowers.

Operate as for the above.

CHAPTER XXVII.

OILS FOR THE PRESERVATION AND GROWTH OF THE HAIR.

Huile du Phœnix, or Baume Nerval.

Take—

Purified beef marrow, 4 oz.
Lard, 2 oz.
Oil of mace, 4 oz.
Oil of cloves, lavender, mint, rosemary,
  sage, thyme, āā 2 drs.
Balsam of Tolu, ½ oz.
Camphor, 1 dr.
Alcohol, 36° B., 1 oz.

Dissolve the balsam of Tolu in the alcohol heated over a water-bath; then add the camphor and essential oils. Melt together the marrow, lard, and oil of mace, and, as the mass solidifies, add the alcoholic solution first made, and stir till entirely cooled.

Huile de Macassar. (Macassar Oil.)

Take—

Oil of ben, 8 qts.
" noisette, 4 qts.
Alcohol, 1 qt.
Essence bergamot, 3 oz.
Spirit of musk, 3 oz.
" Portugal, 2 oz.
Essence of roses, 2 drs.

Mix, and keep the whole over a water-bath for one hour. Then digest for a week, stirring several times daily. Color with alkanet.

Or,

Take—

Oil of ben, 8 qts.
" noisette, 4 qts.
Alcohol, 1 qt.
Essence bergamot, 3 oz.
" rose, 2 drs.
Spirit of musk, 3 oz.
" Portugal, 2 oz.

Operate as above.

Huile de Macassar of Henkenins.

Take—

Essence of héliotrope, 3 oz.
Grease of goose, ½ oz.
Lard, ½ oz.
Liquid styrax, ¼ oz.
Oil of eggs, ¼ oz.
Essence of neroli, 1 dr.

Essence of thyme, ¼ oz.
Balsam of Peru, 7 drs.
Essence of rose, 1 dr.
Butter of cacao, ¼ oz.

Stir all the ingredients in a bottle; leave them to settle for a few hours in a warm place, and keep afterwards in a cool place.

Huile de Graisse d'Ours. (Bear's Oil.)

Take—

Bear's grease body, ½ lb.
Beef tallow body, 2 oz.
Oil of alder, 1 dr.
" sage, 1 dr.
Benzoin, ½ oz.
Musk, ½ dr.

Prepare as preceding.

Huile des Célèbes.

Take—

Superfine olive oil, 1 lb.
Cloves, .8 lbs.
Cinnamon, ½ oz.

Boil the whole for one hour, or until it has lost ¼ of its bulk by evaporation. Then add—

Cinnamon root, ½ oz.
Red sanders, ½ oz.

Infuse the whole 10 minutes; clarify, and add ½ oz. essence of Portugal.

Huile Philocome.

Take equal parts of beef marrow, oils of noisettes and almonds. Mix well under a muller, and perfume with a few drops of any essence.

Huile de Castor.

Mix together the following substances—

Oil of Tonka beans, 4 oz.
“ olives, pure, 2½ lbs.
“ “ in which has been infused 6 oz. of boxwood leaves, ¾ lb.
Olive oil in which has been infused 4 oz. of rose leaves, ½ lb.
Essential oil of cinnamon, 1 dr.
“ “ sassafras, $\frac{4}{5}$ dr.
“ “ rosephire, 18 grs.
“ “ orange flowers, ¾ dr.
“ “ bergamot, 18 grs.
“ “ Portugal, 9 grs.

Shampoo Liquor.

Mix together—

New England rum, 3 qts.
Bay rum, 1 qt.
Water, 1 pt.
Glycerine, 2 oz.
Tinct. cantharides, ½ oz.
Carb. ammonia, ½ oz.
Borax, 1 oz.

Dissolve the two last in water, and add the solution to the other materials mixed together, and then shake well.

Hair Tonic.

Take—

Black tea, 2 oz.
Water, 1 gal.
Bay rum, 1 qt.
Glycerine, 3 oz.
Tinct. cantharides, 1 oz.

Exhaust the tea with boiling water; filter, and stir in the remaining ingredients previously mixed.

Rosemary Water.

Take—

Rosemary, free from stalk, 10 lbs.
Water, 12 gals.

Distil 10 gallons, and keep for use.

Rosemary Hair Wash.

Take—

Rosemary water, 1 gal.
Rectified spirit, ½ pt.
Pearlash, 1 ounce.

Bay Rum.

Take—

Tincture of bay leaves, 5 ounces.
Otto of bay, 1 dr.
Bicarb. of ammonia, 1 ounce.
Borax, 1 ounce.
Rose water, 1 qt.

Mix, and filter.

Athenian Water.

Take—

Rose water, 1 gal.
Alcohol, 1 pt.
Sassafras wood, ¼ lb.
Pearlash, 1 ounce.

Boil the wood in rose water, in a glass vessel; then when cold, add the alcohol and pearlash.

Vegetable Extract.

Take—

Rose water, and
Rectified spirit, of each, 2 qts.
Ext. de fleur d'orange,
" jasmin,
" acacia,
" rose,
" tubéreuse, of each, 1 pt.
Extract of vanilla, ½ pt.

This is a delightfully-scented hair wash.

Astringent Extract of Roses and Rosemary.

Take—

Rosemary water, 2 qts.
Esprit de rose, ½ pt.
Rectified spirit, 1½ pt.
Extract of vanilla, 1 qt.
Magnesia to clear it, 2 ounces.

Filter through paper.

Glycerine and Cantharides Lotion.

Take—

Rosemary water, 1 gal.
Spirits of sal volatile, 1 ounce.
Tincture of cantharides, 2 ounces.
Glycerine, 4 ounces.

To be used with a sponge or soft brush twice a day, when the hair is falling off.

Lotion for the Hair.

Take—

Liquor of ammonia,
Oil of sweet almonds, of each, 2 drs.
Spirit of rosemary, 1 ounce.
Otto of mace, ½ dr.
Rose water, 2½ ounces.

Saponaceous Wash.

Take—

Rectified spirit, 1 pt.
Rose water, 1 gal.
Extract of rondeletia, ½ pt.
Transparent soap, ½ oz.
Hay saffron, ½ dr.

Boil the soap and saffron in one quart of the rose water, and, when dissolved, add the remainder of the water, then the spirit and the extract. Macerate two or three days, and bottle.

SECTION V.

POWDERS.

Though the powders used for the hair and skin have almost gone out of fashion, it is necessary to know the mode of fabricating them, as there is yet a limited demand for them among theatrical artists.

The chief ingredient is the best pearl starch, which should be very white, with a slight tinge of blue, not dull, free from acidity, and perfectly dry, so that it crumbles between the fingers without any pasty feeling. We shall speak first of powders scented with flowers, or *Poudres aux Fleurs.*

CHAPTER XXVIII.

POWDERS SCENTED WITH FLOWERS.

Poudre Blanche.

The preparation of this powder is simple and easy. The perfume is imparted to the starch in two ways: 1st, by stratification with flowers; and, 2d, by commingling it with the pulverized odorous material. As the former mode requires some time for its execution, it is not generally used with the whole of the powders, but only for preparing the *body of the powder;* that is, a certain portion is superimpregnated with the odor intended, and is made to perfume the large portions.

Powder Body.

The following are some of the odors with which these bodies are generally prepared:—

Au chypre, strong smell, double.
A la vanille, double.
Au bouquet, double.
Au bouquet chamois.
Au bouquet de la reine.
A l'ambré et au musc.
A la rose, pale rose, rose musque.
A la maréchale, maréchale ambrée, double.
A la mousseline.
A la frangipane.
A l'iris de Florence, à la violette.
Aux fleurs d'Italie, aux mille-fleurs.
A l'œillet double, very fine.
A l'héliotrope, du Peru, of winter.

Body of Powder à la Fleur d'Oranger.

Take 3½ lbs. of orange flowers, reserving the stamens and pistils for colored powders. This quantity, serving for 40 lbs. of the ordinary powder, should suffice to perfume 15 lbs. of the body. Lay a stratum of powder two inches in depth in the bottom of a box, then deposit a layer of flowers, and so continue with alternate strata of powder and flowers until the box is filled. Stir several times, and at the end of twenty-four hours sift out the flowers. Renew the process with fresh flowers as often as is required to give a proper energy of perfume to the body. After the first serving, bolt again through a finer cloth to remove the more minute particles which, if allowed to remain, would generate humidity. Keep the box which contains the powder in a dry place, and stir the mass every day or two, to dissipate the moisture.

The bodies of the powders of jasmin and other flowers are similarly prepared.

Poudre aux Œillets de Mai. (May-gilliflower.)

These little flowers, furnished so abundantly by gardens, give a sweet powder, the preparation of which shows the perfect resemblance of the powder and body of powder.

Clean the flowers, and dry them a little. Then on a bed of powder, well sifted, and made of good white and dry starch, put a bed of flowers; on a second bed of powder a second of flowers, and so on.

Leave the powder to be impregnated with the scent for twenty-four hours; then stir the mass, and leave again twenty-four hours. Sieve the powder to separate the flowers, and repeat the operation three or four days in succession with fresh flowers.

This powder must be kept dry, and must be well stirred before putting it up in boxes.

Poudre à la Giroflée Jaune. (Wall-flower.)

This powder is prepared as the above.

Poudre au Réséda

Is prepared as the above, except that one-third of *poudre à la rose* is added.

CHAPTER XXIX.

IMPALPABLE POWDERS WITH SCENTING SUBSTANCES.

Poudre à l'Ambre.

Take 1 ounce of ambergris and powder it finely in a cast-iron mortar, with a slightly warmed pestle. Rub in it—

Good musk, ½ ounce.
Benzoin, 2 ounces.
Lump storax, 2 drs.
Ambret seeds, 2 ounces.

The reduction of these substances is facilitated by the addition of—

Ebony dust, 4 ounces.
Pallisandre dust, 4 ounces.
Starch, 2 lbs.

Pass the whole through a fine sieve, and then add enough fine starch to make 12 lbs.

Poudre au Musc.

Operate as above, using the following proportions:—

Musk, 1 ounce.
Amber, ½ ounce.

The coloring is effected by—

Rosewood, 4 ounces.
Ebony wood, 4 ounces.

Poudre à la Vanille Brune.

Take—

Finely divided vanilla, 1 lb.
Rose leaves, 1 lb.
Storax in lump, 1 lb.
Benzoin, 1 lb.
Rhodium wood, 1 lb.
Palissandre wood, 1 lb.
Ebony wood, 1 lb.
Cloves, 2 ounces.
Musk, 2 drs.

Reduce all the materials to a powder, pass it through a fine sieve, and add—

White powder à la tubéreuse, 1 lb.
" " au jasmin, 1 lb.
" " à la vanille blanche, 1 lb.

Mix together, and sift anew.

Poudre à la Vanille Blanche.

Take—

Powder à la tubéreuse or au jàsmin, 6 lbs.
Vanilla, 6 ounces.

Lay the vanilla in strata among the powder in a well-closed box; let it remain about two weeks, and separate by sifting. Renew the operation with the same vanilla till sufficiently perfumed. Sift and mix in one or two ounces of white powder *ambrée and musquée.* Sieve again.

Poudre de Chypre.

The *mousse de chêne* is the basis; in powder, it has a penetrating odor.

Preparation of the Mousse de Chêne or Chypre.

Soak the *mousse de chêne* in water for two days; then pass through a linen cloth, and express. Repeat this soaking in rose water, mixed with one-third of orange flower water, and digest for two days; press; dry in the air, or in a kiln.

CHAPTER XXX.

COMPOUND POWDERS.

Body of Powder à la Maréchale.

Take—

Orris root,	2 lbs.
Roses,	½ lb.
Rhodium wood,	1 lb.
Ambret seeds,	1½ lb.
Cloves,	2 oz.
Cinnamon,	8 oz.
Benzoin,	4 oz.
Storax,	8 oz.
Coriander,	8 oz.
Bergamot peel,	4 oz.
Orange flower,	4 oz.
Badiane,	2 oz.

Angelica root, 4 oz.
Yellow sanders, 4 oz.
Souchet, 2 oz.
Musk, 2 drs.

Powder all except the musk, and add 20 lbs. of starch, stirring all the time. Pass through a fine sieve. The proportion for perfuming the white powder is two pounds to every hundred. Mix the whole thoroughly, and sieve.

Body of Powder au Bouquet de la Reine.

Take—

Orris root, 2 lbs.
Pimento, ½ lb.
Coriander, ½ lb.
Cloves, 1½ lb.
Cinnamon, ¼ lb.
Rhodium wood, ¼ lb.
Dry orange flowers, ¼ lb.
Bergamot peel, ¼ lb.
Ambret seeds, ¼ lb.
Roses, 2 lbs.

Prepare as the above. The proportion of this body is one pound to 100 lbs. of white powder.

Body of Powder aux Fleurs d'Italie.

Take 100 lbs. of white powder starch, and mix thoroughly with it—

Powder de rose musquée, 6 lbs.
" de rose pale, 6 lbs.
" de jasmin, 4 lbs.
" à la fleur d'oranger, 4 lbs.

Powder à la tubéreuse, 4 lbs.
" à la jonquille or jacinthe, 6 lbs.
" à l'iris, 2 lbs.
" à l'œillet composée, ½ lb.
" à l'ambre et au musc, ½ lb.

Pass through a fine sieve.

Poudre à la Rose Musquée Composée.

This powder is used as a body for powders, and as a sachet powder.

Take—

Pale roses, 10 lbs.
Powder de chypre, 2 lbs. 3 oz.
Essence of roses, 1½ dr.

Operate as above, only adding the essence of roses after the rubbing and bolting.

Poudre aux Bouquet Composée.

Take—

Powder à la rose muscade, 12 lbs.
" au jasmin, 6 lbs.
" à la fleur d'oranger, 6 lbs.
" à la tubéreuse, 6 lbs.
" à la jacinthe, 6 lbs.
" à la jonquille, 6 lbs.
" à l'iris, 4 lbs.
" à la vanille, 1 lb.
" à l'ambre and musc, 1 lb.

Color the powder with a little yellow ochre and sieve.

Poudre de Flore.

Take—

Powder au jasmin, 2 lbs.
" à la rose muscade, 1 lb.
" à la tubéreuse, 1 lb.
" à la fleur d'oranger, 1 lb.
" à la jonquille, ½ lb.
" à l'iris, ½ lb.
" de chypre, 2 ounces.

Color by mixing 1 ounce of fine powdered red, and sieve.

Poudre à l'Héliotrope Composée.

Take—

Storax in cake, 1 lb.
Benzoin, 1 lb.
Rhodium wood, 1 lb.
Violet ebony wood, 1 lb.
Ebony wood, 4 ounces.
Cloves, ½ ounce.

Bruise all these substances, and pour on them two drops of balsam of Peru. Reduce all together with six lbs. of starch, and when half saturated, add 2 drs. of musk. If the powder is a little difficult to pass through the sieve, add ¼ lb. of ebony wood. The whole being sieved, add—

Powder à la vanille brune, 1 lb.
" au jasmin, 1 lb.
" à la rose muscade, 1 lb.
" à la tubéreuse, 1 lb.

Mix well, and again sieve.

Poudre à l'Œillet Composée.

This powder is used both as a body and for sachets.

Take—

Roses	1 lb.
Orris root	1 lb.
Cloves	2 oz.
Bergamot peel	6½ oz.
Ambrette seeds	8 oz.
Cinnamon	2½ oz.
Souchet	2½ oz.
Pale roses	8½ oz.
Acacia	2¾ oz.
Orange flowers	2¾ oz.

Poudre à la Mousseline des Indes.

Take—

Pulverized orris root	2 lbs.
Coriander	1 lb.
Cinnamon	2 oz.
Cloves	2 oz.
Ginger	4 oz.
Ambrette seeds	4 oz.
Badiane	½ oz.
Mace	4 oz.
Ginger	4 oz.
Sanders	2 oz.
Palissandre wood	4 oz.

Powder carefully, and sieve.

Olla-Podrida.

After manufacturing certain tinctures, there is a considerable residue of such things as musk, vanilla, tonka, amber, civet, etc. They are rubbed together with a litttle essence of roses, lavender, etc., and constitute the olla-podrida.

CHAPTER XXXI.

POWDERS SACHET.

Poudre Sachet au Chypre.

Take—

Orange flowers, 4 lbs.
Cassia flowers, 2 lbs.
Mousse de chêne, 2 lbs.
Rose de Provins, 1 lb.
Ambrette, 1 lb.
Benzoin, 13 ounces.

Triturate the whole together into a coarse powder.

Poudre Sachet à l'Œillet.

Take—

Powdered cloves, 15 ounces.
Poudre à la rose, 2 lbs. 10 oz.
" au miel, 2 lbs. 5 oz.
" de millefleurs, 2 lbs. 3 oz.

Poudre Sachet de Millefleurs.

Take—

Rose de Provins, 2 lbs.
Orange flowers, 2 lbs.
Cassia flowers, 2 lbs.
Benzoin, 2 lbs.
Celery seeds, ½ lb.

Pulverize all these substances into a coarse powder, and add—

Orris root, 4 lbs.
Body of musk, 13 oz.
" héliotrope, 10 oz.

Poudre Sachet à l'Héliotrope.

Take—

Body of heliotrope, 3 lbs.
Orange flowers, 1 lb.
Sandal wood, 1 lb.
Benzoin, 2 lbs.
Rose de provins, 1 lb.
Cassia flowers, 2 lbs.
Storax in cake, 1 lb.
White bitter paste, 1 lb.
Orris root, 1 lb.
Body of chypre, 6½ oz.
Balsam Tolu, 2½ oz.

Triturate all together, except the bodies of heliotrope and chypre, which are to be added when the others are reduced to a coarse powder. Mix the whole, and keep for use.

Poudre Sachet au Musc.

Take—

Orris root, 4 lbs.
Starch, 2 lbs.
Ambrette, 2 lbs.
Body of musk, 2 lbs.
Benzoin, 1 lb.
Powdered souchet, 1 lb.

Grind the ambrette and benzoin; then mix them with the other substances, and triturate the mass till it is well mixed.

Poudre Sachet à la Rose.

Take—

Rose leaves, 1 lb.
Powdered sandal wood, ¼ lb.
" cedar wood, ¼ lb.
Essence of roses, 8 lbs.
Rose of provins, 4 lbs.
Starch, 4 lbs.
Fleur de starch, 2 lbs.
Orris root, 1½ lb.
Body of heliotrope, 3½ oz.
Powdered clove, 5 oz.

Triturate all together.

Poudre Sachet à la Violette.

Take—

Orris root, 16 lbs.
Cassia flowers, 4 lbs.
Rose de provins, 4 lbs.

Rub these substances in a mortar, and when reduced to coarse powder, add—

Body of heliotrope, 4 lbs.
" musk, $\frac{1}{2}$ lb.

Mix, and keep in a box well closed.

Poudre Sachet à la Violette de Parme.

Take—

Orris root, 6 lbs.
Powder à la violette, 6 lbs.
Rose de provins, 1 lb.

Triturate all together.

Poudre Sachet au Bouquet Impératrice.

Take—

Poudre à la violette, 8 lbs.
" au miel, 4 lbs.
Body of chypre, 2 lbs. 6 oz.
Powder of millefleurs, 1 lb. 10 oz.

Triturate all together.

Poudre Sachet au Miel.

Take—

Powdered orris root, 5 lbs.
Rose de provins, 4 lbs.
Benzoin, 14 lbs.
Body of heliotrope, 6$\frac{1}{2}$ ounces.
" musk, 11$\frac{1}{2}$ ounces.
Essence of geranium, 5 drs.

Triturate in a mortar the orris root, roses, and benzoin. When well bruised, add the other substances, and triturate all together.

Poudre Sachet Frangipane.

Take—

Orris root, 1 lb.
Rose leaves, 1 lb.
Sandal wood, ¼ lb.
Tonka beans, ¼ lb.
Musk, 1 dr.
Civet, ¼ dr.
Essence of roses, ½ dr.

Triturate the musk, civet, and essence of roses, and mix with the other substances reduced to a powder.

CHAPTER XXXII.

COLORED POWDERS.

THESE powders are made of all shades. They were formerly used for disguising the color of the hair.

Poudre Noire or du Liban à la Fleur d'Oranger.

Mix together equal parts of impalpable fine powder of charcoal and ivory black. Place a layer of black in a box, then a layer of the stamens and pistils of orange flowers thrown aside in previous operations, and so continue till the box is filled. The mixture is easily pulverized by adding ¼ lb. of ambrette seeds for each pound of powder. Sieve.

Poudre Blonde.

Mix yellow ochre with the white powder, and the brown powder *à la vanille* in sufficient quantity to furnish the desired shade.

Poudre Brune et Chataine.

Mix roasted starch, ebony, and St. Lucie woods in such proportions as will produce the required tint. These powders carry their perfume with them.

CHAPTER XXXIII.

ABSORBENT POWDERS.

Poudre d'Iris.

Take—

Powdered orris root, 12 lbs.
" bergamot peel, 8 ounces.
" acacia flowers, 8 ounces.
" cloves, ½ ounce.

Mix, and pass through a sieve.

Son Preparé and Parfumé.

This powder is used to clean the hair. Take the bran of wheat and powder it very finely, and for every pound add 2 ounces of orris root in powder. Pass through a sieve.

Poudre Hygienique de Feverolles.

Take—

Dried horse and kidney beans, 1 lb.
Orris root, 2 ounces.

Powder finely, and sieve.

Poudre d'Alun de Toutes Odeurs.

Take 1 lb. of powdered alum and reduce it to a fine powder. Then sieve, and add 8 ounces of powdered orris root. This is the *alum simple à l'iris.*

To obtain the alum of divers odors, take the above for a basis, and to every pound add 1 ounce of any very fragrant powder, or 2 ounces of such as are of mild perfume.

Poudre d'Alun au Jasmin—au Jasmin Jonquille.

Take—

Alum, 1 lb.
Orris root, 6 ounces.
Powder au jasmin, 2 ounces.

For the jasmin-jonquille add 2 ounces powder à l'acacia.

Poudre d'Alun au Musc.

Take same proportions of alum and orris root as above, and add 1 oz. of strong powder au musc perfumed with lavender, thyme, and other aromatic plants.

Violet Powder.

Take—

Starch, 12 lbs.
Orris root, 2 lbs.
Otto of lemon, ½ ounce.
" bergamot, ¼ ounce.
" cloves, ¼ lb.

Pistachio Nut Toilet Powder.

Take—

Starch of pistachio nut, 7 lbs.
Fresh chalk, 7 lbs.
Otto of roses and lavender, 1 dr.

Pass through a sieve.

Rose Face Powder.

Take—

Rice starch, 7 lbs.
Rose pink, ½ dr.
Otto of rose, 2 drs.
" sandal, 2 drs.

CHAPTER XXXIV.

DEPILATORY POWDERS.

In this chapter we shall treat of depilatories in every form, because the basis is similar in all.

Crême Parisienne Dépilatoire.

Take—

Quicklime, 2 oz.
Sulphuret of arsenic (orpiment), ½ oz.
Alkanet in powder, 2 drs.

Mix together, and pack in bottles or boxes.

The following is the mode of using this preparation: Put a few pinches in a saucer, and reduce them to a pasty consistence with warm water. Apply this paste to the place to be depilated, and let it remain from five to eight minutes. Then moisten with a little warm water, and remove it. Sponge the part with hot water, and dry.

Rusma Dépilatoire des Harems.

Take—

Quicklime, 2 oz.
Sulphuret of arsenic, ½ oz.

Boil the whole in one pound of caustic lye.

It is applied to the hairy portion of the body to be depilated, and then washed off with warm water.

The following is the mode of using this rusma in the Turkish harems:—

The preparation of this mixture varies according to the age of the person, the nature of the skin, and the color of the hair. Sometimes one oz. of orpiment is used to eight oz. of quicklime; at other times, they are used in equal proportions; while the most active mixture is composed of three oz. of orpiment to fifteen oz. of the lime. The causticity of the rusma is tempered by mixing with it one-eighth of its weight of starch, and it is then formed into a paste with a little warm water. This paste is applied to the hairy part and left for some minutes, being moistened occasionally, to prevent it drying too quickly. Trials are made to ascertain if the hair detaches easily.

Pommade Dépilatoire de Turquie à la Rose.

This is the same as the above, mixed with lard, a little cochineal, and a few drops of essence of rose.

Poudre Dépilatoire Parfumée à toutes Odeurs.

Take—

Quicklime	16 oz.
Orpiment	1¼ oz.
White powder (au jasmin)	13 oz.
Powder of palm soap	5 oz.

The odor can be changed at the option of the perfumer. When a powder destitute of fragrance is required, use starch and an inodorous soap.

Poudre Dépilatoire Simple.

Mix—

Quicklime	16 oz.
Powdered orris root	6 oz.

Cire Dépilatoire.

Take—

Burgundy pitch	16 oz.
Sap green	½ oz.

Melt the pitch in a stoneware vessel; then add the sap green and strain through a cloth. Roll the composition on a marble slab, and divide into small forms.

To apply this wax, warm it by the heat of a candle flame and gently rub it over the hairy part. It comes off then with the hair attached to it.

Extrait Dépilatoire.

Take—

Quicklime, 2 oz.
Orpiment, ¼ oz.
Nitre, 2 drs.
Sulphur, 2 drs.
Powdered orris root, 2 oz.

Pulverize and mix, then add a pound of good lye.

All the above preparations are dangerous, being liable, on account of the arsenic they contain, to injure the system or the skin.

CHAPTER XXXV.

MISCELLANEOUS POWDERS.

Poudre de Gomme.

TAKE equal parts of gum Arabic and tragacanth, powder them, and add ¼ of powdered orris, or white perfumed powder, and ⅓ of pulverized sugar. This composition is reduced to a pasty consistence with water, and is used on false toupets.

Poudre Steatite de Florence.

This powder is used in drawing on boots. Steatite, or soapstone, is a variety of talc, white, gray, or green, of a specific gravity from 2.6 to 2.66. It is very soft, and can be colored of many shades with substances soluble in oils, acids, etc. It is used naturally or colored, according to choice.

SECTION VI.

COSMETIC PREPARATIONS FOR THE LIPS AND SKIN.

CHAPTER XXXVI.

PASTES, CREAMS, AND JELLIES FOR THE SKIN.

Amandine.

Mix in a mortar—

Gum Arabic, 2 oz.
White honey, 6 oz.

Reduce to a thick mass, and add 3 oz. of neutral white soap. This being gradually incorporated, add 2 oz. of fresh cold-pressed oil of sweet almonds, and, finally, the yelks of five eggs.

The paste has a firm consistence, and is reduced by a thick milk of pistachio, made of—

Fresh-peeled pistach nuts, 4 oz.
Distilled rose water, 4 oz.

Aromatize with ½ dr. of bitter almonds for one pound of paste.

A small portion, with a little warm water, produces a white lather of agreeable odor. This composition is used to whiten and soften the skin.

Crême du Cathay.

Take—

Oil of sweet almonds, 1 lb.
Mecca balsam, 12 grs.
Spermaceti, 1 oz.
Flowers of zinc, ½ oz.
White wax, 1 oz.
Rose water, 3 oz.

Mix over a sand-bath. This cream whitens the skin, and destroys its wrinkles and roughness.

Saponaire.

The root of the soapwort yields a vegetable soap which is used as a cosmetic for the hands. It is prepared as follows: Dry the root in the air, and pulverize finely; then take—

Pulverized soapwort root, 2 parts.
Pulverized marshmallow, 1 part.
Farina of horsechestnuts, 1 part.

Perfume with—

Essence of roses, 2 drs.
    "   rhodia, 1 dr.
    "   Mecca balsam, 1 dr.
Balsam of Peru, 1 dr.
Red thyme, 1 dr.

Pommade Mexicaine.

Take—

Butter of cocoa, 4 lbs.
Oil of noisette, 2 lbs.
  "   ben, 2 lbs.

Vanilla, 2 oz.
White balsam of Peru, 1 dr.
Flowers of benzoin, ½ dr.
Civet, ½ gr.
Neroli, 1 gr.
Essence de rose, 1 gr.
Esprit d'œillet giroflée, 1 ounce.
Distilled water of lemon and bergamot, 1 pt.

Macerate the vanilla in the butter of cocoa for eight days at a temperature of 70°. Dissolve the balsam of Peru, the benzoin, and the civet, in alcohol, and add the esprit d'œillet. Incorporate the essence of rose and neroli with the oils of ben and noisette.

These mixtures being made, place the cocoa and vanilla in a tinned vessel, and boil gently over a water-bath. At the first ebullition add the aromatic spirit, and continue boiling for a quarter of an hour, in order to evaporate the alcohol. Then pour in the oils and withdraw from the fire; strain into a marble mortar, and stir constantly with the pestle.

Solidification commences in an hour, and the mixture has the consistence of a cream. Then gradually stir in the odorous waters, and color with a little carmine. The stirring must be continued till the paste is entirely cold.

Composition for Softening the Skin.

Take—

Butter, 4 lbs.
Oil of sweet almonds, 4 lbs.
Common white soap, 6 lbs.
Decoction of marshmallow, 8 lbs.
Alcohol, 1 pt.

Melt in a stoneware vessel over a water-bath, stirring well, and when thoroughly incorporated, let the mixture cool. Perfume according to taste.

Pommade au Beurre de Cacao.

Take—

Purified butter of cocoa, 1 lb.
White wax, ½ lb.
Spermaceti, ½ lb.
Strongly rose-scented olive oil, 2 lbs.
Flowers of benzoin, 1 dr.
Vermilion, 1 pinch.

Melt the wax, spermaceti, butter, and oil, at a gentle heat. Pour the whole into a marble mortar, and rub with the pestle till it commences to solidify. Then add in by degrees 10 oz. of water, holding in solution the flowers of benzoin. Stir till the materials are perfectly incorporated; then add the vermilion, and diffuse by trituration.

Pommade de Concombres.

Take—

Pure lard, 10 lbs.
Calf suet, 2½ lbs.
Juice of cucumbers, 7½ pts.

Melt the two greases, mix in the juice, and macerate for some time. After a day or two decant, and add as much fresh juice. Repeat the operation ten times with new juice. When the fat has acquired a smell of cucumbers, melt over a water-bath, and add 1 ounce of starch, stirring well.

Pommade de Ninon de l'Enclos.

Take—

Oil of sweet almonds, 1 lb.
Washed lard, ¾ lb.
Rose water, ¾ lb.

Pommade aux Limaçons.

Take—

White wax, 2 oz.
Oil of sweet almonds, 10 oz.
Rose water, 1 lb.

Melt the wax in the oil, and pour the mixture into a mortar. When it is nearly solid, rub it for half an hour; then add the rose water.

Pommade des Sultanes.

Melt over a water-bath—

White wax, 1 oz.
Spermaceti, 2 oz.

Withdraw from the fire, and add—

Oil of sweet almonds, 8 oz.
" white poppy, 8 oz.

Continue beating till the mixture begins to get white, then add ½ of Mecca balsam, and a gill of rose water. Continue rubbing till the mixture will take up no more rose water.

Pommade d'Hebée.

Take—

Juice of lily bulbs, 2 oz.
Honey, 2 oz.
White wax, 1 oz.
Rose water, 3 drs.

Or,

Take—

Juice of white lily bulbs, 2 oz.
Honey, 2¼ oz.
White wax, 1 ounce.

Melt the wax, and mix in the other ingredients.

This pomade is used for removing wrinkles, being rubbed on the face every night.

Pommade de Beauté.

Melt together over a water-bath—

White wax, 1½ oz.
Spermaceti, 2 oz.
Oil of sweet almonds, 4 oz.
Oil of cloves, 4 oz.
" poppy, 4 oz.
Balsam of Peru liquid, 8 drops.

This is an excellent cosmetic.

Pommade des Grâces.

Take—

Fresh lavender flowers, 10 lbs.
Lard, 2½ lbs.
White wax, ¼ lb.

Infuse 2 lbs. of the flowers with the lard for two hours over a water-bath; then strain and express. Repeat the operation until all the flowers have been macerated with the grease. Wash the pomade with several waters to remove the extractive matter of the flowers. Remelt at a gentle heat, and pour into pots.

Cold Cream, *No.* 1.

Take—

Spermaceti, 5 drs.
White wax, 5 drs.
Almond oil, 10 oz.

Liquefy over a water-bath; pour into a marble mortar, heated by boiling water, stir quickly, and add 3½ ounces of rose water, 15 grs. essence of roses, and a few drops of potash lye.

Cold Cream, *No.* 2.

Take—

Pure white grease, 3½ ounces.
Spermaceti, 3½ ounces.
Pure nut oil, 3½ ounces.
Essence of roses, 4 grs.

Melt the grease and spermaceti, then add the oil. When the mixture is cold, heat it in a mortar, adding 5 ounces of rose water; then add the essence. 15 grs. of geranium may be substituted for the essence of roses.

Cold Cream à la Rose.

Take—

Almonds oil, 1 lb.
Rose water, 1 lb.
White wax, 1 oz.
Spermaceti, 1 oz.
Essence of roses, ½ dr.

Melt the wax and spermaceti in the oil, then stir in the rose water, and finally perfume with the essences.

Gelée de Glycerine.

Take—

Pure glycerine, 2 oz.
White soap, ½ oz.
Almond oil, 1 lb.
Essence of thyme, 1 dr.
" cloves, 1 dr.
" bergamot, ½ dr.

Mix the glycerine and add the oil; then rub in a mortar, and perfume with the essences.

Crême Neige. (Snow Cream.)

Take—

Spermaceti, 3½ oz.
White wax, 2 oz.
Fresh almonds oil, 11½ oz.

Melt over a water-bath, and pour into a marble mortar; stir quickly with an ivory spatula. When the mass is solidified, rub it with the pestle, stirring well for fifteen or twenty minutes. When a kind of white cream is obtained, add little by little, by rubbing—

Rose-water, double, 1 oz.
Pure glycerine, 1 ounce.

Stir twenty minutes, and add—

Essence of roses, 10 drops.

Stir quickly for thirty or forty minutes, when you have a white cream with a sweet smell. Put it into jars.

Camphor Cold Cream.

Take—

Almonds oil, 1 lb.
Rose-water, 1 lb.
Wax and spermaceti, 1 oz.
Camphor, 2 oz.
Otto of rosemary, 1 dr.

Cucumber Cold Cream.

Take—

Almonds oil, 1 lb.
Green oil, 1 oz.
Juice of cucumbers, 1 lb.
Wax and sperm, each, 1 oz.
Essence of cucumber, 2 oz.

CHAPTER XXXVII.

COSMETIC MILKS.

Lait de Rose. (Milk of Rose.)

Take—

Fine olive oil, 1 ounce.
Oil of tartar, 6 drops.
Rose-water, 1 qt.

Lait de Rose. (London.)

Melt together in a stoneware vessel over a water-bath—

Spermaceti, 1 ounce.
White wax, 1 ounce.
" soap, 1 ounce.

Rub in a marble mortar—

Bitter almonds, 2 ounces.
Sweet almonds, 1 lb.

Take out three-quarters, and on the remaining fourth pour the above mixture, and continue rubbing. Then add, by degrees, the other three-quarters of the almonds, always pestling, so as to incorporate thoroughly. In a white glass bottle mix—

Distilled water, 1 qt.
Rose-water, ½ pt.
Spirit of rose, ½ pt.

Reserve one pint, and gradually pour the mixture first made into the remainder.

Rub, and strain through a cloth, then return the residuum to the mortar, triturate it with the reserved mixture, strain, and mix with the other liquid.

Lait de Fraicheur.

Take—

Double rose-water, 8 ounces.
Tincture of benzoin, ½ ounce.
Mecca balsam, ½ ounce.

Mix thoroughly.

Lait Virginal, Simple.

Take—

Tincture of benzoin, 2 drs.
Orange flowers water, 7 ounces.

Lait Virginal, Double.

Take—

Benzoin, 8 ounces.
Storax in lump, 8 ounces.
Souchet, 4 ounces.
Cloves, 1 ounce.
Cinnamon, 2 ounces.
Nutmegs, 2 ounces.
Ambrette seeds, 2 ounces.
Calamus, 2 ounces.
Amber, 1 dr.
Musk, 1 dr.

Bruise all together, pass through a fine sieve, and infuse the powder for one month in 2½ gallons of rectified spirit, and 2 quarts of brandy, stirring from time to time.

Lait de Concombres.

Proceed as above, but use juice of cucumbers instead of rose-water.

Lait de Lys.

Same operation as the above, but instead of white soap take 2 oz. of lily bulb, and substitute the clarified juice of house-leek for the juice of cucumbers. Perfume with 1 dr. essence of jasmin.

Lait de Fleurs d'Oranger.

Take—

Tincture benzoin, 3 drs.
Orange flowers water, 4 oz.
Neroli, 4 drops.

Lait d'Amande de Sevigné.

Take milk of sweet almonds made by thinning 1 lb. of bruised almonds, with a second decoction of—

Pearl barley, 3 pts.
Mecca balsam, 4 drops.

Mix, strain, and perfume with 3 drops of essence of vanilla.

Lait de Pistache for the Skin.

Take—

Pistache of Spain, 3½ ounces.
Infusion of violets, 1 qt.
Essence of neroli, 1 ounce.
Palm soap, 6 drs.
Green olive oil, 6 drs.
Wax and spermaceti, 6 drs.

CHAPTER XXXVIII.

PREPARATIONS FOR THE LIPS.

Pommade Rosat.

Take—

White wax, 2 ounces.
Oil of sweet almonds, 4 ounces.
Powdered alkanet, 3 drs.

Melt, strain, and add 12 drops of oil of roses.

Pommade de Roses.

Take—

White wax, 2 ounces.
Olive oil, 4 ounces.
Orkanet, ¼ ounce.

Infuse two hours over a water-bath, then strain and express. When cool, add 12 drops essence de rose. Mould in little round boxes of ebony.

Cerat d'Amour.

Take—

Spermaceti, 2 ounces.
Oil of sweet almonds, 4 ounces.
Milk of roses, 1 dr.
Powdered roses, 3 drs.

Manipulate as above.

Crême de Psyché.

Take—

White wax, 1 ounce.
Spermaceti, 1 ounce.
Oil of sweet almonds, 5 ounces.
Mecca balsam, 1 dr.
Pulverized acetate of lead, ½ dr.

Prepare as above. This preparation is dangerous to use.

Pommade au Raisin.

Take—

Fresh butter, 8 oz.
Yellow wax, 8 oz.
Alkanet, 1 oz.
Seeds of three bunches of raisins.

Boil to a syrupy consistence in a stoneware vessel. Strain through a fine cloth.

Pommade Virginale.

Also called *pommade astringente*, because its object is to strengthen.

Take—

Sulphate of zinc, ½ ounce.
Myrtle leaves, 3 drs.
Sumach, 3 drs.
Gall nuts, 2 drs.
Cypris nuts, 2 drs.
Granada bark, 2 drs.
Rosa ointment, q. s.

Carefully pulverize the six substances, and incorporate the powder in the ointment rosat. This pomade must be carefully used.

Pommade Blanche.

Take—

Orris root, 1 ounce.
Calamus aromaticus, ½ ounce.
Benzoin, ½ ounce.
Rosewood, ¼ ounce.
Cloves, ¼ ounce.

The whole being cracked, put the mass into a cloth, and heat it in 2½ lbs. of lard. Add 4 ounces of rose-water and 2 ounces of orange flowers water. Heat slightly, and leave it to cool.

Pommade Rose.

Is prepared by adding some orkanet to the above.

CHAPTER XXXIX.

COSMETIC POWDERS.

Poudre de la Mer Rouge.

Take—

Alum, 1 lb.
White sugar, 1 oz.
Gum Arabic, 1 oz.
Carmine, 1 oz.

Mix, reduce to an impalpable powder, and pass through a fine sieve.

This powder cures ringworm, red blotches, and pimples.

Poudre Orientale.

Take—

Peeled sweet almonds, 1 lb.
Rice flour, 2 oz.
Orris root, 2 oz.
Benzoin, 2 oz.
Spermaceti, 1½ dr.
Salt of tartar, 1½ dr.
Volatile oil of rhodium wood, 15 drops.
" " lavender, 15 drops.
" " cloves, 15 drops.

Mix, and pass through a fine sieve. This powder is mild and agreeable.

Serkis du Serail.

Take—

Sweet almond paste, in fine powder, 1 lb.
Rye meal, 9½ ounces.

Oil of jasmine, 6 drs.
" orange flowers, 6 drs.
" rose, 6 drs.
Balsam Peru (black), 4½ drs.
Essence of rose, 6 grs.
" " cinnamon, 6 grs.
Senila of potatoes, 9½ ounces.

Mix the essences by degrees, separately, in a stoneware vessel. Then pour them gradually on the powders, rub the mass well, and pass through a sieve. To color red, use 5½ drs. of very fine powdered cochineal; mix, and sieve.

This powder is used for whitening the skin and removing blotches.

Pomade for Chapped Lips.

Take—

Oxide of zinc, 1 ounce.
Lycopodium powder, 1 ounce.
Pommade rosat, 2 lbs.

Mix, and make into a perfectly homogeneous pomade.

This is an excellent remedy for chapped lips, and is beneficial in cases of ulceration of the nails of the feet.

SECTION VII.

ALMOND PASTES.—COSMETIC GLOVES.

The residue left by the oil of almonds, after its expression, is generally called *pate d'amandes.* This product assumes two forms: The almond pastes really in paste, as the *pate d'amande liquide*, *grasse*, etc., and the other sold in powder, are diluted with water; we must then distinguish the *pate d'amandes* in *powder*, and the *pate d'amande liquide.*

CHAPTER XL.

ALMOND PASTES IN POWDER.

Pate d'Amandes Bise.

The marc, obtained by expression, of equal parts of apricot kernels and bitter almonds, and again alternately bruising and pressing every two hours, for three days, when they are perfectly dried by the sun or oven heat, powdered and sifted, forms the product above-named, which is sold unperfumed at a low price.

To make it more soluble, it is mixed with fecula or bran, the odor of the latter being masked with 1½ oz. essence of bergamot to 8 lbs. of paste.

Pate d'Amandes Douces Blanche demi Amère.

The almonds being pressed, the cakes are broken into pieces and put in a place free from dampness. When dried, powder and sieve them. This done, the body is ready to receive the chosen perfume, or to be mixed with the brown bitter paste to furnish *la pate demi amère.*

Pate d'Amandes Douces, Blanche à la Bergamote.

In a marble mortar put 8 lbs. of paste, to which, if thought proper, can be added $\frac{1}{4}$ of bitter almond paste.

Pour in 2 oz. essence of bergamot, and triturate until the lumps are entirely broken, and the whole reduced to a fine powder. Then pass through the sieve.

This paste can be similarly perfumed with rose, orange flower, acacia, etc.

Pate d'Amandes Amères.

This paste, obtained by triturating scalded bitter almonds, is not perfumed as is usual, lest its natural odor be impaired; this smell is mitigated by adding 3 lbs. of paste of sweet almonds to every 10 lbs. of bitter almond paste.

Pate d'Amandes Douces à la Violette.

Take 1 lb. of orris root in powder, and place it in a mortar; rub it with—

Essence of Portugal,	2 drs.
" violet,	2 ounces.

Add, stirring well at the time—

Bitter almond paste, ½ lb.
Sweet almond paste, 10 lbs.

Then sieve.

Pâte d'Amandes d'Italie.

Mix together equal parts of paste of sweet almonds, noisette, ben, and rice flour.

Perfume with 1½ ounce of honey water, or the same quantity essence of Portugal, to every 6 lbs. of mixed paste.

Pâte d'Avelines.

Powder perfectly, as usual, the cakes of avelines completely dry, and perfume with essence of roses 2 ounces for 12 lbs. of paste.

Color with a small quantity of cinnabar. It is safer to color with organic coloring matters, such as orkanet, Brazil wood, etc.

Fleur d'Amandes Amères.

Mix together—

Pâte d'amandes amères, 4 lbs.
Pâte douce, 1 lb.
Orris root, 8 ounces.
Pâte d'avelines, 8 ounces.
Powdered Barbadoes nut, 6½ ounces.

Then sieve the whole.

Pâte d'Amandes aux Parfums.

To perfume 2 lbs. of paste or flowers of sweet and bitter almonds, mixed half and half, take as desired, one of the following essences—

Cedrat, 4 drs.
Bergamot, 2 drs.
Lemon, 4 drs.
Bitter oranges, 5 drs.
Orange of Portugal, 5 drs.
Citron, 4 drs.
Cloves, 2 drs.
Neroli, 2 drs.

In the season of orange flowers, use 4 ounces of the flowers mixed with 2 lbs. of paste.

CHAPTER XLI.

LIQUID ALMOND PASTES.

Pâte d'Amandes aux Jaunes d'Œufs.

Take 4 oz. of sweet almonds, powder them finely in a marble mortar, add the yolks of 3 fresh eggs, mix well, thin out with 8 ounces of milk, and boil until it assumes the consistence of paste, stirring constantly during the ebullition. Perfume with 1 dr. essence of vanilla.

Pâte d'Amandes à l'Alcoholat de Lavande.

Take—

Sweet almond paste, 2 lbs.
Bitter almond paste, 8 oz.
Nuts, 10 ounces.

Mix the whole together in a mortar, and beat with 4 ounces of lavender brandy. Triturate well.

Pâte d'Amandes à l'Eau de Melisse.

Operate as above, by substituting the *eau de melisse* for the alcoholat of lavender; you can also, instead of this, use the *eau de Cologne.* When you use pure eau de vie, perfume with 2 drs. essence of bergamot or jasmine.

Pâte d'Amandes Suave Orientale.

Take—

Peeled bitter almonds, 12 oz.
Rice flour, 7 oz.
Bean flour, 3 oz.
Fine orris powder, 1 oz.
Pulverized carbonate of potash, ½ oz.
Alcoholic essence of jasmin, 3 ounces.
Essential oil of rhodium, 2 drops.
" " neroli, 1 drop.

Powder the almonds, and to prevent the separation of the oil, add a little water. The powdered almonds are mixed in the rice and beans flours and powdered orris root. Rub well. Dissolve the carbonate in a little water, and add it by degrees to the above mass, and immediately afterwards pour in the essences.

Pâte d'Amandes au Miel.

Rub in a mortar a little oil of bitter almonds with 12½ ounces of good sweet almond paste, add 21 ounces of good honey, and turn the mixture, without adding oil.

Then take a dozen yolks of eggs, which rub, and with them mix 6 spoons of oil of bitter almonds.

After stirring well, add 8 ounces oil of bitter almonds, and stir anew the paste, to dissolve the oil, and continue to pour the oil, 8 ounces at a time, and at the same intervals of time. The paste is made when it does not attach to the mortar or the pestle.

Pâte d'Amandes au Miel Parfumé.

Take—

Honey,	12 lbs.
Sweet almond paste,	12 lbs.
Oil aux fleurs, according to choice,	24 lbs.
Yolk of eggs,	26 lbs.

The honey is boiled separately, and strained. Knead in the almond paste, and finish by adding, by degrees, the yolks of the eggs and odorous oil.

If the oil used is of a strong odor, weaken the strength of the perfume with ⅓ of sweet almond oil.

Pâte d'Amandes Liquide à l'Alcohol.

Dilute with weak alcohol, or an alcoholic tincture, that of cinnamon, for instance, or vanilla, thinned with brandy, 10 lbs. of sweet almond paste; pass the mixture through a mill, boil in a tinned vessel over a gentle fire, stirring all the time. The paste being half boiled, remove from the fire, and add—

Powdered alum,	2 oz.
" spermaceti,	2 oz.
White salt,	4 oz.
Yolks of eggs thinned with brandy,	1½ lb.

Replace upon the furnace, and continue boiling till the paste readily detaches from the spatula. Take from the fire, stir several times whilst it is cooling, and pass through a hair sieve. If too thick, thin it out with plain brandy.

Perfumed brandy may be substituted for the alcohol.

Pâte d'Amandes des Sultanes.

Take—

White paste of sweet almonds in powder, 10 lbs.

Then dissolve in 1 pint of alcohol.

Essence bergamot, 6½ drs.
“ lemon, 3¼ drs.
“ Portugal, 3¼ drs.
Essential oil of cloves, 3¼ drs.
Liquid balsam Peru, 3¼ drs.
Essence of fennel or orris root, 50 grs.
Rose-water, 13 ounces.
Orange flower water, 13 ounces.

To increase the fragrance, add—

Essence of amber, 3¼ drs.
“ “ musk, 2½ drs.

Pâte Liquide Perfumed with Bergamot and other Scents.

Prepare the paste with spirit at 46°, as indicated for the pâte d'amandes liquide. Perfume in passing through the sieve. For this purpose, dissolve in a little spirit 2 drs. of essence of bergamot for every pound of paste. Add to this mixture a few drops of orange flower water, and dilute the paste with this perfume. In using the essence of Portugal, employ only 1 dr. for every pound of paste. The essences of lemon, rose, neroli, etc. etc., are used to the extent of 2 drs.

Pâte Liquide de Flore, or Pâte à la Rose.

Take 3 pounds of paste of white sweet almonds, and 1 lb. of paste of bitter almonds, and pass them through a mill. Dilute them with equal quantities of simple rose-water and spirit of roses. Work them according to the rule, and add 8 yolks of eggs, diluted with rose spirit.

After cooling, dilute the paste with the following mixture, which is prepared in a bottle.

Spirit of roses, 1 pt.
Essence oil of roses, 5 drops.
" " rhodia, 5 drops.
Eau de roses, double, 1 pt.

Pâte Liquide au Jasmin.

Operate as with the above, substituting the spirit of jasmin for the spirit of roses, and 2 ounces of *huile antique de jasmin* for the rhodia and roses. Add a little essence of amber.

Compound Body to Prepare the Pâte d'Amandes Liquid with Vanilla.

Take and bruise—

Vanilla and storax, of each, 4 ounces.
Styrax and cloves, of each, 1 ounce.
Canella, ½ ounce.

When powdered, add—

Balsam of Peru, 2 ounces.

Incorporate with the whole 8 ounces of liquid pâte d'amandes, perfumed with essence of vanilla. The whole being well mixed, dilute it with a little spirit of vanilla, balsam of Tolu, and rose-water, and then sieve.

This body must be moistened with a little spirit of vanilla. A particle, the size of a nut, is sufficient for one pound of liquid paste. Rub it, by degrees, into this paste, adding the same essences which have been used to dilute the body before passing it through the sieve.

Pâte Liquide à la Fleur d'Oranger.

Operate as above, substituting the spirit and oil of jasmine for the spirit and oil of orange flower, and the essence of amber for that of musk. A few drops of neroli will finish scenting it.

Pâtes d'Amandes Liquide à la Violette, à l'Héliotrope, au Bouquet.

They are all made by the same process.

Pâtes Grasses with every kind of Perfume which unites with Bitter Almonds.

Take some white powder paste of bitter almonds, and dilute it with a sufficient quantity of oil of bitter almonds, so that it presents the consistence of a liquid paste. When it dries, moisten it with a little oil of bitter almonds.

While it has its own perfume, it can be scented with the antique oil of lavender, thyme, or mint.

Pate d'Amandes in Cakes.

Make, of a select liquid paste, a paste sufficiently firm and cut it into cakes or tablets. The perfumes vary according to taste.

CHAPTER XLII.

COSMETIC GLOVES.

Though not altogether fashionable, these gloves are still worn by those who are subject to chaps and chilblains. Ladies especially use them, hence the necessity of always being provided with a small stock.

Gants Cosmetiques au Bouquet.

Take—

Wax,	½ ounce.
Spermaceti,	½ ounce.
White soap,	½ ounce.
Mutton suet,	7 drs.

Melt these substances over a water-bath, and add—

Olive oil,	1½ oz.
Pommade rosat,	1½ oz.
Benzoin,	1 dr.
Peru balsam,	1 dr.
Essence of roses,	a few drops.
Honeywater au bouquet,	½ oz.

Stir till the mixture is complete, and whilst hot apply with a brush to the inside of the glove. Then the gloves are blown up, and kept in a warm place to dry.

Gants Cosmetiques à la Rose des Champs.

The operation is similar to the above. The mixture is made by beating up the yolks of 2 fresh eggs with 2 spoonfuls of oil of sweet almonds, and adding ½ oz. of rose-water and 2 drs. tincture of benzoin.

These gloves are worn during the night, and each pair should serve two weeks.

SECTION VIII.

PAINTS.

Since there are those who, wanting in natural color, are compelled to have recourse to art for the supply of the deficiency, it is requisite that the paint be selected with care, both as to its ingredients and mode of composition.

The principal care in the compounding of paints should be not to compromise the health of the customer by deleterious admixtures or components.

The paints are of two kinds, *white* and *red.*

CHAPTER XLIII.

WHITE PAINTS.

White paints are of mineral composition, and consist of the *talc whites*, which, though not directly hurtful, produce but little illusion, and of the *lead whites*, very white and brilliant, but dangerous because they irritate the skin, and by the perspiration introduce a poison into the animal economy.

There is a white paint which combines the beauty of the lead whites with the innocuity of the talc *whites;* this is the *zinc white.* The precipitated carbonate, however, is preferable to any paint.

Blanc de Circassie.

Make a slightly-blued water with a little ultramarine, and dissolve in it a little powdered gum tragacanth. With this solution thin out a very finely-powdered Venetian talc, and of this paste form lumps by pushing the mass through the barrel of a glass funnel, and catching the drops upon white paper. When these drops are dried, pack them into boxes.

Blanc de Céruse, or Common White.

This white is used in powder, with oil, in pomade. In powder, it is mixed with tragacanth gum, and a light perfume. Sometimes it is mixed with pulverized talc.

Fard de Blanc de Krems.

Reduce the white krems into an impalpable powder, sieve a portion, and incorporate it with a pomade, either of pure lard and spermaceti, or as well of mutton suet and white wax. This pomade should be slightly perfumed.

Fard Blanc de Bismuth. (Pearl White.)

This white is nothing more than a precipitate thrown down by a solution of chloride of sodium, and is the subchloride of bismuth. This white is prepared either in troches or pomades, as the above.

Blanc de Fleurs de Zinc.

According to Mr. Thenard, the perfumer prefers the white of bismuth and lead, notwithstanding their deleterious properties, and their liability to blacken in the air, because they alone imitate the soft brightness of the skin. The *flowers of zinc*, which furnish a paint less dangerous, and little costly, give an insufficient white, while the *talc* or *chalk of briançon*, treated by vinegar, well washed with water, and reduced into impalpable powder, produces a white without deleterious properties. Those substances so far have been used separately; but in mixing them in different proportions, a good, cheap, and not dangerous paint can be obtained.

CHAPTER XLIV.

RED PAINTS.

The red paints are 1st, of the mineral, 2d, of the vegetable, and 3d, of the animal kingdom; they receive four forms: 1st, rouge in impalpable powder, put up in shallow pots, so as to admit of an easy application; 2d, rouge in pomade applied with the finger; 3d, rouge *en crêpons.* The crêpons are pieces of silk gause so twisted as to form a plug in which is deposited the red; 4th, these and the liquid rouges produce most illusions, and are most permanent, but they operate disadvantageously on the skin by reason of the acids which enter into their composition.

Preparation of Powdered Talc.

As all kinds of red combine with pulverized talc, it is necessary to say something about its preparation. There are two sorts, the natural and the calcined; this last is whiter, but not as unctuous as the other, and not so tenacious. The talc is rasped off with a file, then finely sieved and bolted, until in impalpable powder.

Different Shades of Rouge.

To imitate nature, the tint must be used nearly approximating to flesh color, and to satisfy the taste of consumers, prepare the shades of rouge red, and deep red, a very slight quantity of either of which when thinned out with powder or pomades, furnishes a third shade, or pale red. Some perfumers regulate these shades by numbers, the rouge being worked up with red liquor, either carmine or saucer red. It is important that the liquor should be of a deep and beautiful red.

No. 6.	Take	4	oz.	talc,	and	6 drs.	red liquor.
No. 8.	“	4½	“	“	“	1 ounce	“
No. 12.	“	3½	“	“	“	1 “	“
No. 18.	“	3	“	“	“	1 “	“

Rouge of Cinnabar, or Common Rouge.

This poor red is nearly abandoned; it is prepared by grinding together powdered talc and cinnabar; add to the mixture for 6½ ounces, 6 drops of oil of ben or sweet almonds, or 12 drops of a solution of gum tragacanth. Stir well the paste, till all is incorporated. Spread it on china plates, and expose it to a gentle heat in an oven. The temperature must be the same till perfectly dried. This color is fine, but dangerous.

Rouge de Bois de Brazil Foncé.

Take the red lake of Brazil wood, wash it with water, and then with the juice of a lemon, to precipitate the coloring matter. If it is desired to prepare the rouge in pomade, mix a small quantity with a composition of lard and white wax. If the rouge is wanted in powder, dry the precipitated coloring matter, and incorporate it with talc. Finish as before directed.

Rouge de Carmin.

Take—

Two drs. of carmine and mix it with a little hot water. Into a deep porcelain plate put 4 oz. pulverized talc, and in the centre of this powder make a cavity, and pour in the carmine mixture, stirring all the while with a spatula. When the whole is well mixed, add 6 drops of oil, and a solution of gum tragacanth. The first shade of this rouge is very deep.

SECOND SHADE.

Carmine, 2 drops.
Talc, 4½ ounces.
Oil and gum, a little less than for the first shade.

THIRD SHADE.

Carmine, 2 drs.
Talc, 5 ounces.
Oil, 7 drops.
Solution of gum, 15 drops.

Proceed on the same principle for the other shades.

Rouge Fin de Carmin en Pommade.

Take of carmine the same quantity as above, and incorporate it with an inodorous lard and wax pomade of good quality. It can be made also into powder by mixing it with talc.

Rouge Fin de Germanie.

You obtain it by using the German carmine. Some perfumers called it rouge aux fleurs d'Italie, because it is slightly scented.

Rouge Superfin de Chine.

See the 5th process, Section II., and work it as usual, either in pomade or in powder.

Rouge Extra Fin de Chine.

This fine rouge is extracted from cochineal by alcohol, the filtered tincture is thinned with a little solution of gum Arabic, and the whole boiled down to a thick liquor. This residue, spread upon paper, is put aside in a warm place to dry.

This rouge is detached from the paper with the moistened finger, and thus applied to the lips or cheeks. It is better to dry it on saucers.

Rouge Superfin de Hollande.

See the 4th process, Section II., and prepare as usual.

Rouge Extra Fin d'Alyon.

Obtained by working, according to the rule, the carmine indicated by the 6th process, Section II.

CHAPTER XLV.

VEGETABLE RED.

THIS rouge, which is preferable to all others, is extracted from the carthamus flowers (*Carthamus Tinctorius*), or wild saffron. The name of *rose orientale* is also given to it, because the carthamus was first cultivated in the East.

Preparation of the Carthamine.

Select the flowers and place them in clean bags.

Submit them to the action of running water, continually beating them, and by this means separating the yellow coloring matter from the red; continue this process till the water ceases to run colored. The washed flowers are treated with potash at 4°, and after twenty-four hours decant. Treat this extracted residue with a very weak solution of potash; let it stand, and afterwards decant.

Unite all these liquors together, add to them gradually citric acid, till perfect saturation takes place. The red coloring matter is precipitated, mixed with a little yellow coloring matter, which is separated by introducing into the liquor finely carded cotton, during the precipitation.

The coloring matter (red) fixes on the cotton, which is washed with clean water, and is treated by a solution of carbonate of potash, which dissolves the coloring matter perfectly pure.

Precipitate the coloring matter a second time with citric acid, being careful to lay talc in the bottom of the vase, to absorb the red precipitated. It is finely rubbed up with olive oil, to make it smooth and greasy.

Rouge Végétal en Poudre.

This red is prepared by placing, previous to the second precipitation of the rouge, at the bottom of the vessel, finely powdered talc or French chalk, which, becoming charged with the coloring matter, is treated as above.

The mixture is rubbed up with a few drops of olive oil or ben oil.

Rouge Vert d'Athènes.

The precipitate above obtained, spread whilst pure and damp upon cards, takes in drying a bronze color, resembling that of Spanish flies, but which passes into a beautiful red as soon as moistened.

Rouge en pot.

Take—

Liquid carthamine, 2½ drs.
Powdered talc, 4 ounces.

Rub with a little pure water, and add a solution of gum tragacanth and ben oil, according to the shade to be obtained.

Rouge des Circassiennes Liquide.

This is prepared by dissolving purified rouge de carthamine in a mixture of spirit of wine and dilute acetic acid.

CHAPTER XLVI.

VINEGARETTED PAINTS.

Vinaigre de Fard.

Take—

Powdered cochineal, 6 drs.
Lake in powder, 6 ounces.
Alcohol, 12 ounces.
Distilled lavender vinegar, 2 lbs.

Infuse ten days, stirring during the interval, and then decant.

Vinaigre de Rouge.

This article is very costly, has a mild perfume, and is slightly acid. It is made as follows:—

Best carmine, 1 lb.
Powdered cochineal, 8 ounces.

Boil together with—

Rose-water, 24 pts.
Spirit of roses, 1 gal.

And add to develop the color—

Cream of tartar, 4 ounces.
Alum, 2 ounces.

The above liquor forms the first shade of red; the residue, to which is added a like quantity of rose-water and spirit, makes the second; and, finally, the same residue already boiled twice, still furnishes, with a quantity of water and spirit of roses, equal to the above, the third shade.

Rouge Liquide Economique.

Infuse in alcohol the cotton or crêpon that is unsalable, and add to this infusion a sufficient quantity of concentrated sulphuric acid, and a few drops of rose oil.

Rouge Liquide de Sophie Garbet.

Take—

Alcohol at 36°	½ lb.
Distilled water	¼ lb.
Best carmine	⅔ dr.
Oxalic acid	12 grs.
Alum	12 grs.
Mecca balsam	20 grs.
Ammonia	20 grs.

Mix the alcohol with water, add the oxalic acid, alum, and balsam; shake well, and leave it in a warm place for five or six hours, and then filter it.

Rub the carmine in a mortar with the ammonia, and put the whole into a bottle, leave it to rest fifteen minutes, and then decant.

Vinaigre de Vemus.

Take—

Powdered cochineal	½ ounce.
" lake	6 drs.
Alcohol	1½ ounce.
Distilled lavender vinegar	2 lbs.

Infuse ten days, frequently stirring; decant and filter.

CHAPTER XLVII.

CREPONS—ACCESSORY PAINTS.

To what has already been said at the commencement of this Section, it is now only necessary to add that the *crêpons* are prepared in single or double pieces, and sometimes with a wooden handle attached; they are then called *tampons au rouge;* these tampons are merely instruments for applying the rouge to the face.

Eau de la Chine.

This water is used for dyeing the hair. Place in a mortar ½ ounce of warm pure silver, which dissolve gradually in 1 ounce of pure nitric acid. That done, add 1 ounce of mercury, and 3 of nitric acid, and when the solution is complete, pour in half a pint of distilled water. Continue a gentle heat, and when clear, decant and keep in a bottle with a glass stopper. This water is dangerous to use; not so with the following soap.

Soap for Dyeing the Hair and Eyebrows Black.

Take—

Mutton suet, 2 ounces.
Liquid pitch, 1 ounce.
Pierre noire (black crayon), ½ ounce.
Labdanum, ½ ounce.
Varnish, ½ ounce.

To this add a sufficient quantity of lye made from the ashes of the willow. Perfume with a little amber, vanilla, or musk.

Hanman's Hair Dye.

Take—

Litharge, 275 grs.
Quicklime, $4\frac{1}{4}$ ounces.
Starch, 2 ounces.

Reduce to a fine powder, which make pasty with warm water. It is then covered with a moist cloth, which in several hours can be removed, if applied to hair with the fingers, and well rubbed on.

Delacroix's Hair Dye.

Take—

Acetate of lead, 2 ounces.
Prepared chalk, 3 ounces.
Quicklime, 4 ounces.

Use as the above.

SECTION IX.

DENTIFRICES.

This branch of perfumery is one of much interest and importance. Both chemists and dentists have made common cause with the perfumer in perfecting the composition of dentifrices.

They are divided into elixirs or odontalgic waters, powders, pastes, and prepared brushes; we shall treat of each branch separately.

CHAPTER XLVIII.

AQUEOUS DENTIFRICES.

Eau Dentifrice.

Take—

Angelica root, 1 lb.
Anise seed, 1 lb.
Cinnamon, ¼ lb.
Nutmeg, ¼ lb.
Cloves, ¼ lb.

Bruise these substances, and place them in a flask; add 32 pounds of alcohol at 25°, and 6 ounces of essence of mint. Macerate eight days, and distil over a water-bath, merely to dry. To the distillate product add—

Red bark,
Rhatany root,
Myrrh, of each, 4 ounces.
Balsam Tolu,
Tincture vanilla,
Pulverized cochineal, of each, 2 ounces.

Macerate for six days, filter, and bottle for use.

15 to 20 drops in a half glass of water are sufficient to rinse the mouth each morning.

Eau Odontalgique du Dr. O'Meara.

Take—

Vitivert of India, 1 ounce.
Pyrethrum root, 4 ounces.
Cloves, 48 grs.
Orris root, 96 grs.
Coriander and alkanet, each, 96 grs.
Essence of mint, 96 drops.
Essence of bergamot, 48 drops.
Alcohol at 36°, ½ lb.

Bruise the solid materials in a mortar, and place them with alcohol and essences in a tightly-covered vessel. Macerate eight or ten days, stirring frequently. Then decant and filter.

Eau Balsamique de Jackson.

Take—

Orange and lemon peel, ¼ lb.
Angelica root, ¼ lb.
Rasped guaiacum, ¾ lb.
Pyrethrum, ¾ lb.
Tolu balsam, ¼ lb.

Benzoin, ¼ lb.
Cinnamon, 1 ounce.
Vanilla, 1 ounce.
Myrrh, 1 ounce.
Pomegranate rind, 1 ounce.
Alcohol, 32°, 1 gal.

Bruise the whole, and macerate in alcohol for ten days, stirring frequently. Distil over a water-bath, and to the distillate add—

Alcohol, 30°, 1 qt.
Tinct. cochlearia, 1 pt.
" mint, 1 pt.

Color the whole with alkanet or cochineal. This water is excellent for strengthening and healing soft, swollen, and bleeding gums. It is balsamic, and purifies the breath of all bad odor arising from decayed teeth, foul stomach, or tobacco smoke.

Elixir de Rose.

Take—

Alcohol, 3 lbs.
Cloves, ¼ ounce.
Cinnamon, 6 ounces.
Ginger, ¼ lb.
Essence Portugal, ¼ ounce.
" peppermint, 2 ounces.
" rose dissolved in 10 ounces of water, ½ dr.

Mix, infuse two weeks, and filter.

Elixir de Lafandinière.

Take—

Rasped guaiacum, 1 ounce.
Pyrethrum, ¼ ounce.
Nutmegs, ¼ ounce.
Cloves, 1 ounce.
Oil of rosemary, 20 drops.
" bergamot, 8 drops.

Macerate three or four weeks, filter, and put up in bottles with glass stoppers. A teaspoonful in a tumbler of water is sufficient to bathe and rinse the gums.

Eau de Sthal.

This preparation, mixed with water, is used for washing the teeth, as also to wash the face, etc.

For 9 qts. of alcohol, take—

Eau de rose, 3 qts.
Pyrethrum root, 5 ounces.
Souchet, 3 ounces.
Tormentilla, 3 ounces.
Balsam of Peru, 3 ounces.
Canella, 5 drs.
Galega, 8 drs.
Rhatany, 8 drs.

Reduce these substances to a powder, and throw them into alcohol; leave it to macerate six days. Then allow it to settle twenty-four hours, and decant; when clear, add to the liquor—

Essence oil of mint, 1½ dr.
Powdered cochineal, 4 drs.

Elixir de Greenough Blanc.

This elixir is made by three simultaneous infusions.

1st. Take 3 qts. of white rum, in which infuse 3 ounces of patience root with 2 ounces of cochlearia and 2 of powdered guaiacum.

2d. Take 6 drs. burr myrrh, 6 drs. cochineal, 3 drs. alum, and 3 drs. of cream of tartar; infuse in 1 pint of spirit of wine.

3d. Take 6 drs. of cloves, and 6 drs. of vanilla; that you infuse in 1 pint of alcohol.

Allow these three infusions to stand separately for three or four days, stirring from time to time. Mix them, and stir again, and filter through paper.

Esprit de Greenough Rose.

Take—

Spirit of wine, 1 gal.
Laudanum, ½ lb.
Camphor and saffron, of each, ½ ounce.
Canella and nutmeg, 1 ounce.
Coriander, 2 ounces.
Carmine or dragon's blood, 1 ounce.

Crack the four first substances, infuse in alcohol for one month, stirring from time to time, and filter.

Baume du Commandeur.

Take—

Dry flowers of Hypericum, 1 ounce.
Angelica root, ½ ounce.
Alcohol at 85°, 1¼ pt.

Digest four days, and add balsam of Tolu in powder, and benzoin, of each, 3 ounces.

Eau de Vie de Guiac.

Macerate for twenty days in 1 qt. of brandy at 60°, 2½ ounces of rasped guaiacum, pass, express, and filter.

Eau de Vie de Rhatany.

Operate as the above.

Eau de Vie Ammoniacale to Prevent Cariosity of Teeth.

Take—

Brandy, 1 pt.
Sal ammoniac, ½ dr.

Dissolve and mix in 1 pt. of water as a wash for the mouth.

Paraguay Roux.

Take—

Cress of Para, 4 ounces.
Alcohol at 85°, 1 pt.

Distil over a water-bath, collect about one pint of spirit. Add before the distillation—

Powdered pyrethrum root, 1 ounce.
Inula bifrons, 1 ounce.

Use it in doses of a teaspoonful in half a tumbler of water.

Esprit de Pyrethre Simple.

Take—

Powdered pyrethrum root, 1 lb.
Alcohol at 22°, 4 lbs.

Esprit de Pyrethre Composée.

Take—

Pulverized cinnamon, 80 grs.
“ coriander, 2½ drs.
“ vanilla, 2½ drs.
“ cloves, 18 grs.
“ cochineal, 18 grs.
“ mace, 18 grs.
“ sal ammoniac, 18 grs.
“ saffron, 18 grs.
Esprit de pyrethre simple, as above, 1 qt.

Macerate two weeks, and add—

Triple orange flower water, ½ ounce.
Oil of anise, 18 drops.
“ lemon, 18 drops.
“ lavender, 9 drops.
“ thyme, 9 drops.
Pulverized ambergris, 3 grs.

Digest the two liquors for two days, and distil over a water-bath.

Esprit Odontalgique de Boherhave.

Take—

Alcohol at 85°, 1 ounce.
Camphor, ½ ounce.
Powdered opium, 15 grs.
Essential oil of cloves, 80 drops.

Eau Impériale Odontalgique.

Take 6 qts. of alcohol and 2 pints of rose-water, and dissolve in the mixture—

Benzoin, 3 ounces.
Cloves, 2 ounces.
Cinnamon, 1 ounce.
Gum Arabic, 1 ounce.
Musk, 4 grs.
Fenugrec seed, 2 drs.
Sweet almonds, 4 ounces.

Bruise all these materials, macerate several days; distil over a water-bath, and draw off 4 qts.

Eau Dentifrice.

Take—

Alcohol at 85°, 4 ounces.
Essence of mint, 20 drops.
" rose, 8 drops.
Cochineal, 7 grs.
Cream of tartar, 9 grs.

Mix the whole, stir, expose to a gentle heat. Filter after a maceration of three days.

Imitation d'Eau de Quinquina.

Take—

Alcohol at 90°, 2 gals.
Extract English honey, 1 qt.
" essence bouquet, 1 qt.
Eau de feuille d'oranger.
After eight days' maceration, 4 qts.

Color with the infusion of red catechu, and 3 ounces tincture of orkanet.

Elixir Odontalgique.

Take—

Alcohol at 85°, 1 ounce.
Powdered camphor, 6 grs.
" opium, 3 grs.
Spirit of pyrethre, ½ ounce.

Mix the whole, stir and filter.

Eau Hygienique Dentifrice.

Take—

Infusion dentifrice, 10 qts.
Alcohol at 90°, 40 qts.
Essence of mint, 13½ ounces.
" anis badiane, 8 ounces.
" bergamot, 4 ounces.
" cloves, 2 ounces.
" canella, 1 ounce.

Elixir Hygienique Dentifrice.

Take—

Alcohol at 85°, 30 qts.
Infusion dentifrice, 10 qts.
Extract of English honey, 8 qts.
Infusion of orris, 3 qts.
" vanilla, 1 qt.
" vanillon, 1 qt.
Essence of mint, 15 ounces.
" anis badiane, 12 ounces.

Baume Dentifrice de Pradal.

Take—

Rectified alcohol at 90°, 1 pt.
Spirit of roses, 3½ ounces.
Essence of neroli, 1 dr.
" coriander, 1 gr.
" fenouil, 4 grs.
" badiane, 22 grs.
" anis, 22 grs.
" mint, 1½ dr.
" bitter almond, 15 grs.
Ammonia, ½ dr.
Vanilla, 1¼ dr.
Balsam Tolu, 2½ drs.
Catechu, 3½ drs.

Another Receipt.

Take—

Rectified alcohol at 90°, 1 pt.
Extract of amber, 5 grs.
" orris, 18 grs.
Essence of sassafras, 4 grs.
" coriander, 1 gr.
" fenouil, 4 grs.
" anis, 12 grs.
" badiane, 1 dr.
" mint, 1¾ drs.
Spirit of roses, 3½ ounces.
Oil of bitter almonds, 15 grs.
Ammonia, 31 grs.
Vanilla, 1¼ dr.
Balsam Tolu, 2½ drs.
Catechu, 3½ ounces.

Both of the above are manufactured in the same manner.

Infuse in a warm place the catechu, tolu, vanilla, in alcohol for eight days, stirring from time to time; pass them, and mix the other matters, and expose for three days to a gentle heat, after which filter.

Violet Mouth Wash.

Take—

Tincture of orris, ½ pt.
Esprit de rose, ½ pt.
Spirit, ½ pt.
Otto of almonds, 5 drops.

Eau de Botot.

Take—

Tincture of cedar wood, 1 pt.
" myrrh, ¼ pt.
" rhatany, ¼ pt.
Otto of peppermint, 15 drops.
" roses, 10 drops.

Botanic Styptic.

Take—

Rectified spirit, 1 qt.
Rhatany root,
Gum myrrh,
Cloves, of each, 2 oz.

Macerate for fourteen days; strain.

CHAPTER XLIX.

DENTIFRICE POWDERS.

Poudres au Charbon.

1st. Take—

Finely pulverized charcoal, 2 oz.
Sugar, 2 oz.
Oil of cloves, 6 drops.

Make a homogeneous powder.

2d. Take—

Finely pulverized charcoal, 2 oz.
Red bark, 2 oz.
Pulverized sugar, 1 oz.
Volatile oil of mint, 8 drops.

3d. Take—

Finely pulverized charcoal, 2 oz.
Sulphate of quinia, 4 grs.
Magnesia, 4 grs.

Perfume with a few drops of rose-water and essence of mint, cinnamon, or with powdered rose leaves or orris root.

4th. Take—

Finely pulverized charcoal, 2 oz.
Cream tartar, ½ oz.
Yellow bark (cinchona), 2¼ oz.
Rock candy, 1 ounce.
Oil of cloves, 16 drops.

Poudre Dentifrice.

Take—

Powdered white sugar, 4 ounces.
" alum, 2½ drs.
" cream tartar, 5 drs.
Cochineal, 46 grs.

Bruise the whole in a mortar, and pass through a fine sieve.

Poudre de Ceylon.

Take—

Cream tartar, 2 lbs.
Calcined alum, 6 oz.
Carbonate of magnesia, 12 oz.
Rock candy, 12 oz.
Pulverized cochineal, 2½ oz.
Essence cinnamon, 3 oz.
" cloves, 2½ oz.
" mint, 1½ oz.

Powder the whole, mix, sieve, and bolt through silk. The cream of tartar must be dried.

Poudre Peruvienne.

Take—

White sugar, ½ dr.
Cream tartar, 1 dr.
Magnesia, 1 dr.
Starch, 1 dr.
Canella, 5 grs.
Mace, 2 grs.
Sulphate of quinia, 2½ grs.
Carmine, 3 grs.

All these substances are reduced to a fine powder, and mixed carefully. Add at the last 4 drops oil of rose, and as much peppermint.

Poudre Dentifrice Suave.

Take—

Absorbing powder, 2 ounces.
Orris root, 6 drs.
Lake, 4 drs.
Cream tartar, 3 drs.

Poudre Dentifrice de Maury.

Take—

Red bark, $\frac{1}{4}$ lb.
Magnesia, 1 lb.
Cochineal, 3 ounces.
Calcined alum, 2 ounces.
Cream tartar, 2 ounces.
Essential oil of mint, $1\frac{1}{4}$ dr.
" " cinnamon, 3 drs.
Esprit de rose, 1 dr.

Powder separately the first five materials. Powder the alum with the cochineal, and add the cream tartar and bark.

Put the essences in a bottle with the magnesia, and when absorbed, add the first powders, then incorporate the whole, and pass through a sieve.

Poudre Detersive Dentifrice.

Take—

Willow charcoal, 1 lb.
Calisaya bark, ½ lb.
White sugar, 1 lb.
Essential oil of mint, 6 drs.
" " cinnamon, 4 drs.
Spirit of amber, 1 dr.

Reduce to an impalpable powder, mix, and sieve.

Poudre Dentifrice au Bouquet.

Take—

Calcined pumice stone,
White coral,
Dry bones,
Cream tartar,
Orris root, 8 ounces of each.
Sal ammoniac, 2 ounces.
Gray amber,
Canella,
Coriander,
Cloves,
Rhodium wood, 1 dr. of each.

Reduce the whole to a fine powder, and sieve.

Poudre Dentifrice Orientale.

Take—

Dragon's blood, 1 lb.
Cream tartar, 2 ounces.
Orris root, 2 ounces.
Cinnamon, 1 ounce.
Cloves, ½ ounce.

Poudre Dentifrice Américaine.

Take—

Red coral	8 ounces.
Dry bones	8 ounces.
Dragon's blood	8 ounces.
Red sandal	4 ounces.
Calcined alum	4 ounces.
Orris root	8 ounces.
Cloves	½ ounce.
Canella	½ ounce.
Vanilla	¼ ounce.
Rhodium wood	½ ounce.
Lake	8 ounces.
Carmine	¼ ounce.

Reduce the whole into powder, and pass through a sieve.

Poudre Dentifrice à la Rose.

Take—

Cream of tartar	3 lbs.
Calcined alum	½ lb.
Cochineal	¼ lb.
Cloves	½ lb.
Cinnamon	½ lb.
Rhodium wood	2 ounces.
Essence of rose	4 to 6 drops.

Powder the whole, and pass through a fine sieve.

Poudre Dentifrice de Piesse and Lubin.

Take—

Precipitated chalk	1 lb.
Powdered orris root	1 lb.
Carmine	15 grs.
Powdered sugar	15 grs.
Essence rose	60 grs.
" neroli	60 grs.

Poudre Dentifrice.

Take—

Coral	7 ounces.
Sugar	7 ounces.
Charcoal	2 ounces.
Essence verveine	2½ drs.

Powder the three first substances in an iron mortar, sieve; add the essence, and pass a second time through the sieve.

Peruvian Bark Powder.

Take—

Peruvian bark in powder	½ lb.
Bolc ammoniac	1 lb.
Orris root	1 lb.
Cassia bark	½ lb.
Powdered myrrh	½ lb.
Precipitated chalk	½ lb.
Otto of cloves	¼ lb.

Farina Piesse's Powder.

Take—

Burnt horn, 2 lbs.
Orris root, 2 lbs.
Carmine, 1 dr.
Powdered sugar, ½ lb.
Otto of neroli, ½ dr.
" lemon, ¼ ounce.
" bergamot, ¼ ounce.
" orange peel, ¼ ounce.
" rosemary, 1 dr.

Opiat Tooth Paste.

Take—

Honey, ½ lb.
Chalk, ½ lb.
Orris, ½ lb.
Carmine, 2 drs.
Otto of cloves,
" nutmeg,
" rose, of each, ½ dr.
Simple syrup, enough to form a paste.

CHAPTER L.

OPIATS OR PASTES.

OPIATS are preparations with a soft consistence, in which enter all the substances used in the preparation of powders, and in these also it is important to exercise care in the use of materials in which enter alum, cream of tartar, or any acrid substance.

Opiat Dentifrice de Charbon.

Take—

Washed and fine charcoal, 2 oz.
White honey, 2 oz.
Vanilla candy, 2 oz.
Essence of rose or mint, 8 drops.

Mix the whole into a paste, and use as is customary. To render the paste more efficacious, add 1 ounce Calisaya bark.

Opiat pour les Dents.

Take—

Syrup of white sugar at 33°, 1¼ ounce.
Dry powdered bones, 6½ ounces.
Laque, 1 ounce.
Essence peppermint, 1¼ dr.

Rub the whole together on a slab.

Opiat Dentifrice Rouge.

Take—

Powdered red coral, 1 lb.
" cinnamon, ¼ lb.
" cochineal, 2 ounces.
" alum, ¾ ounce.
Best honey, 40 ounces.
Water, 2 ounces.

Rub in a mortar the cochineal, water, and alum. Macerate twenty-four hours, add the honey, cinnamon, and coral; allow it to stand two days, after which stir and perfume according to taste.

Opiat Dentifrice Blanc.

Take—

Purified white honey, 2 lbs.
Syrup of mint, 1 lb.
Powdered orris root, ¼ lb.
Sal ammoniac, ¼ lb.
Cream tartar, ¼ lb.

Mix the whole in a mortar, rubbing in afterwards—

Tincture of cinnamon, 1 ounce.
" " cloves, 1 ounce.
" " vanilla, 1 ounce.
Essential oil of cloves, ¼ ounce.

Opiat Dentifrice d'Orient.

Take—

Cream tartar, ¼ lb.
Pumice stone, ¼ lb.
Calcined alum, 1 ounce.
Cochineal, 1 ounce.
Oil of bergamot and cloves, of each, 1 dr.
Syrup of honey, a proportionate quantity.

Powder the solid materials, add the essences and syrup of honey, and rub into a paste.

Opiat de Piesse and Lubin.

Take—

Honey, 8 ounces.
Precipitated chalk, 8 ounces.
Powdered orris root, 8 ounces.
Tincture of opium, 1¾ dr.
" " myrrh, 1¾ dr.
Essence of rose, ½ dr.
" clove, ½ dr.
" nutmeg, ½ dr.

CHAPTER LI.

PREPARED ROOTS AND TOILET BRUSHES.

THERE is nothing more disagreeable than to be obliged to use the hands in applying oil or pomades to the hair, the grease being with difficulty removed from the hands, and often soiling the clothes. The new mechanical brushes dispense with these inconveniences, and when it is necessary to smooth or grease the hair, it is necessary to pass only the brush several times over the head. These brushes are fastened with wire or pitch, hollow and mounted with glass, metal, ivory, wood, etc. The form and size are variable, and they have one or more openings for the discharge of the liquid contained in the bristles. Upon the back is an arrangement, in the form of a valve, by which the cosmetic is discharged at will. A turn of the thumb applied to this mechanism is sufficient for the discharge of a proper portion of the liquid. This description of brush answers equally well for cleaning the teeth or nails, as for the flesh, or even as shaving brushes, the difference consisting merely in the material introduced in the interior. The object of these brushes is the application of liquid and greasy materials, without using the fingers.

We do not deem it necessary to enter into more details in regard to them, as they can be found at any brushmaker's. We shall now describe root brushes.

Brushes of the Marshmallow Roots.

Take marshmallow root, straight and rather large, cut it to the length of five inches; unravel the two ends, boil them in water with the roots of pyrethrum, alkanet, and cinnamon.

When well boiled and tender, withdraw them carefully, and soak twenty-four hours in brandy, and dry them in a warm room. When used, soak them in warm water.

Brushes of Horseradish Root.

They are prepared as the above, except that you use tincture of cloves, instead of plain brandy, for macerating the root, which is afterwards laid over with gum tragacanth, and this gum, when dried, again covered with several coats of compound tincture of benzoin.

Brushes of Lucerne Root.

Take the Lucerne root, stripped of the bark, dry it slowly, and when dried, cut it into pieces three inches long, and upon each end strike lightly with a hammer; when the fibres become detached, and form a brush.

Infuse these brushes one or two days in alcohol colored with alkanet, withdraw and dry them, and when dried, burnish the wood with a bone instrument.

Brushes of Liquorice Root.

Select such root as is sound and straight, cut it into pieces four or five inches long, dry them at a gentle heat, rasp off the outer skin, in order to color them with the marc remaining from the *vinaigre rouge.* It is sufficient to boil these marcs in water with alkanet, and when the decoction is slightly cold and strained, macerate in the root for four or five hours. Dry them, and coat several times with compound spirit of pyrethrum.

Fine Sponges with Handles.

These sponges are preferable to brushes generally used for rubbing the teeth; they are better than root brushes, softer, and cleanse better the upper circumference of the teeth without injury to the gum, but they are very inconvenient if held by the fingers, and should have handles of wood or ivory.

Choose the finest sponge, and give the brushes the size and form of a large pigeon's egg, and after having soaked them for some hours in tincture of guaiac, or other odontalgic liquor, beat them with the marc of vinaigre rouge as directed for the root brushes.

SECTION X.

VOLATILE OILS—AROMATIC WATERS—SPIRITUOUS ODORS.

All the products treated in this section are obtained by distillation. For the perfumer, they are the raw materials used in manufacturing a multitude of preparations and furnished perfumes, while their perfect odor and other properties permit them to be used alone.

CHAPTER LII.

VOLATILE OILS.

From all the immediate products of vegetables, the volatile oils are those of which we find the most species; everything induces us to believe that they are the odoriferous principle of almost every plant, it is then easy to calculate how great is their number. Sometimes they are found in all parts of the plant, sometimes in the leaves, in the barks, in the envelopes of seeds, but not in the cotyledons.

They can be distinguished from sweet oils by their volatility, their odor more or less strong, agreeable or disagreeable, and by the property they possess of not leaving any spot on paper. Their savor is acrid and burning; they are colorless; or slightly colored. They are lighter than water, except those of canella, cloves, sassafras; they freeze at different temperatures; some acquire viscosity at the ordinary temperature, and become even solid, as those of anis, fennel, etc.

It was announced some time since that volatile oils, in thickening by contact with the air, are transformed into a resin and acetic acid, and that some give an acid capable of crystallizing, similar to benzoic acid, and with the difference only it is not attacked by nitric acid. Later, Mr. Bizio having expressed oils at a lower temperature, has solidified them, and separated two principles, the *stearoptene* and *eleoptene.*

The *stearoptene* of anis, fennel, and rose oils is solid at 54°.5, while that of cedrat, lavender, melisse, peppermint, orange, etc., is only at 4°. It crystallizes sometimes in prismatic needles, that of the oils of anis, fennel, and rose, are soluble in alcohol, and they solidify when exposed to a temperature of —6°. By evaporation it crystallizes by cooling. Exposed to the air it hardens, and to be melted, it requires a more elevated temperature.

The *eleoptene* remains fluid at the coldest temperature; it dissolves in alcohol, and distils with it.

Volatile oils burn with a bright flame, and give much smoke. In contact with water or oxygen gas, they absorb this last gas, become solid, and are transformed into resinous substances. This absorption varies according to the oils, and produces carbonic acid gas.

A volume of anis oil has absorbed in two years 159 times its volume of oxygen gas, and produced 56 volumes of carbonic acid gas.

A volume of lavender oil has absorbed in four months of winter, 52 volumes of oxygen and produced two volumes of carbonic acid.

Volatile oils are more or less soluble in water, alcohol, and ether. In solution in water, they constitute the aromatic waters; with alcohol, they form the compounds known by the name of eau de Cologne, tinctures, spirits, etc. With the aid of heat, they dissolve phosphorus, which is precipitated by cooling. According to Hoffman, 10 parts of camphor can render soluble 1 part of phosphorus; by heat these oils also dissolve a little sulphur.

Chlorine, iodine, dehydrogenize and render them more viscous in uniting with them.

Alkalies have not the same action on them as on sweet oils. The chemical researches on this point are few; however, it seems that volatile oils have not a great affinity for them, and the compounds they form are called *savonules.* This reaction is very difficult and very long. *Aromatic* or *toilet soaps* are not the result of the saponification of these oils, they enter into their composition only as perfumes.

Several acids exert a remarkable action on volatile oils, all are capable of absorbing the gas hydrochloric acid, and neutralize a part of it; some crystallize by their absorption. We shall take, for example, the oil of turpentine, which gives with this gas a product similar to camphor; it is the same with lemon oil.

All experiments have shown that these oils were inflammable when mixed cold with double their weight of a mixture of concentrated nitric and sulphuric acid. These proportions vary according to the more or less inflammability of the oil. Concentrated nitrous and nitric acids decompose these oils, we observe a great disengagement of heat, a swelling, and probably production of water, oxide of nitrogen, nitrogen and carbonic acid. When these acids are poured on the oils, they often in-flame, and this inflammation is constant if they contain the ⅓ of their weight of sulphuric acid.

We give below the proportions indicated by Mr. Thenard to make this experiment with success, and without danger:—

Nitric acid saturated with nitrous acid, 1½ ounce.
Sulphuric acid, ½ ounce.
Oil of turpentine, 1 ounce.

The essential oil is put into a crucible, and the two acids are poured on it little by little. The action of sulphuric acid is due to the absorption of the water of nitric acid, which then is decomposed very easily.

Nearly all essential oils are distinguished from each other by their specific gravity, taste, and particular odor. The following table gives the density of the principal essential oils.

Names of the volatile oil.	Name of the author.	Temperature.	Centesimal alcohometer.	Areometer of Cartier.	Areometer of Baumé.	Test salt of Baumé.	Specific Gravity.
Oil of bitter almonds	Chardin.	77				10.00	1.075
" anis . .	"	77	28.50	14	14.28		0.972
" badiane .	"	77	28.50	14	14.28		0.972
" bergamot, .	"	77	76.33	29	30.30		0 8675
" "	Guibourt.	64.4			30.		0.879
" "	Chardin.	65.75	74.50	28.50	29.75		0.880
" "	"	54.5	73	27.50	28.70		0.886
" bigarade .	"	77.	83.33	33.50	35.10		0,852
Camphor . .	Brisson.	52.7					0.9887
Oil of canella .	"	54.5				6.	1.0439
" Ceylon . .	Chardin.	77				3.5	1.0255
" China . .	"	77				7.5	1.056
" cloves . .	"	77				9.5	1.071
" of carvi .	"	77	62	23.25	24.15		0.910
" of cedrat .	"	77	83.33	33.50	35.10		0.8515
" "	Guibourt.	64.4			31.00		0.8709
" cedar .	Chardin.	77	37.	16	16.40		0.959
" lem. (not dist.)	Guibourt.	64.4			33.00		0.8627
" "	Chardin.	77.	84.33	33	34.33		0.856
" " distilled	"	64.4	84.33	33	34.33		0.856
" sweet lemon .	"	77	84	32.75	34.07		0.8575
" cumine .	"	65	54	20.50	21.20		0.928
" fennel . .	"	77	69	25.75	26.8		0.896
" cloves . .	Brisson.	54.5				5.	1.0363
"	Chardin.	77.0				8.5	1.035
Oil of cloves lighter than water .	"	77.0				8.5	1.0635
Lavender . .	"	77.0	73	27.50	28.70		7.8865
Idem	"	65.75	71	26.66	27.8.		0.89
Idem	"	54.5	69.60	26	27.10		0.8944
Idem	Brisson.	54.5			26.0		0.8938
Lavender spi. .	Chardin.	77.0	64.25	24.0	24.96		0.9062
Idem	"	65.75	63.	23.50	24.40		0.9086
Mace . . .	"	77.0	53.5	20.66	21.4		0.9266
English peppermint	"	64.8	63.0	23.50	24.40		0.9066
French "	"	77.0	61.0	22.66	23.55		0.914
Nutmeg . .	"	77.0	57.75	21.50	32.3		0.921
Oranges (Portugal)	"	77.0	87.0	24.50	36.2		0.846
Rosemary . .	Guibourt.	77.0	69.5	26.0	27.1		0.8944
Idem	Chardin.	64.8			29.0		0.8847
Roses (orientale) .	"	77.0	78.0	29.75	31.1		0.8725
" (Provence) .	"	77.0	80.0	30.75	32.2		0.867
Sandal . . .	"	77.0	29.0	14.50	14.8		0.9684
Sassafras . .	"	77.0				11.75	1.089
Sage . . .	Guibourt.	64.8			22		0.9224
Thyme, . . .	"	64.8			27		0.8936

It is proper to remark here that nearly all these results have been obtained with the areometer of Gay-Lussac, and not knowing the ratio of this instrument with the table of the specific gravity, they have been obliged to calculate this with the help of the areometer of Cartier and Baumé, and in supposing that the areometer of Cartier marks 10° in distilled water, and that 29° of Cartier equal 31° of Baumé; however, this double calculation must throw some doubt on the exactness of the results.

In the second table below, we give the specific gravity of the oils obtained by Mr. Martius, a druggist of Erlangen, and the action of these oils on the tincture of litmus.

Oils.	Specific Gravity.	Action on litmus.	Oils.	Specific Gravity.	Action on litmus.
Anis	0.9853	redden a little.	Cloves	1.0555	redden a little.
Badiane	0.987	not redden.	“	1.009	not redden.
Bergamot	0.8737	redden a little.	Rectified oil	0.795	“
idem	0.8801	“	Lavender	0.886	redden very lt'e.
Calamus arom.	“	“	“ rect.	0.872	redden.
Chamomile	0.924	not redden.	idem	0.8875	redden.
“ citrat.	0.870	“	Linette	0.931	idem.
Canella	1.0906	redden.	Mace	0.8715	not redden.
idem	1.0608	“	idem	0.947	redden.
Carvi	0.9619	“	Orange	0.845	not redden.
Cedrat	0.869	redden a little.	Peppermint	0 9013	“
Cedar	0.8609	“	“ rect.	9.9098	“
idem	0.869	“	“ not rect.	0.9024	“
Fennel.	0.9853	not redden.	Sabine	0.931	
Juniper	0.912	redden.			
Sassafras	1.0842	redden.			
idem	1.0809	“			

CHAPTER LIII.

COMPOSITION OF VOLATILE OILS.

In the following table are given the principal volatile oils, with their colors, and the part of the vegetable from which each is extracted. It is easy to see by that table that vegetable oils can be found in the different parts of plants.

Name of the plant.	Part which furnished them.	Oils.	Color.
Angelica archangelica . .	Root and seeds	Angelica	Yellow.
Pimpinella anisum . . .	Seeds	Anis	White
Illicium anisetum	idem.	Badiane	Brown.
Citrus aurantium	Bark of the fruit	Bergamot	Yellow.
Eugenia caryophyllata . .	Capsules	Myrtle	idem.
Matricaria chamomilla . .	Leaves	Chamomile	Blue.
Laurus cinnamomum . . .	Bark	Canella	Yellow.
Citrus medica	Bark of the fruit	Lemon	idem.
Coriandrum sativum . . .	Seeds	Coriander	White.
Anethum fœniculum . . .	Seeds	Fennel	idem.
Hyssopus officinalis . . .	Leaves	Hyssop	Yellow.
Lavandula spica	Flowers	Lavender	idem.
Myristica moschata . . .	Seeds	Nutmeg	idem.
Origanum majorana . . .	Leaves	Marjolain	idem.
Mentha piperitis	"	Peppermint	idem.
Citrus aurantium	Bark of the fruit	Neroli	Orange.
Rosmarinus officinalis . .	Plant	Rosemary	Colorless.
Rosa centifolia	Flowers	Rose	idem.
Ruta graveolens	Leaves	Rue	Yellow.
Salvis officinalis	idem	Sage	Green.
Laurus sassafras	Root	Sassafras	Yellow.
Thymus serpillum	Flow. and leaves	Thyme	idem.

Experiment has demonstrated that oils extracted from plants are often composed of two oils, fusible at unequal temperatures, but it does not seem that these two oils are identical in all, and have the same analogy as oleine and stearine in fatty bodies. Messrs. De Saussure, Houton-Labillardière, and Gobel, are the only chemists who have tried to determine the elementary principles of these oils. The results which they obtained are given in the following table, in which they are divided into oils, 1st, composed of carbon and hydrogen; 2d, composed of carbon, hydrogen, and oxygen.

1. *Volatile Oils not Oxygenized.*

Oils.	Carbon.	Hydrogen.	Oxygen.	Nitrogen.
Oil of turpentine	87.600	12.300	"	"
idem	87.788	11.646	"	0.566
Stearoptene of rose oil	86.743	14.889	"	"
Lemon	86.899	12.326	"	0.775

2. *Volatile Oils Oxygenized.*

Oil of lavender	75.50	11.07	13.07	0.36
" anise	76.49	9.35	13.82	0.84
Stearoptene of anise	83.47	7.53	8.54	0.46
Oil of rose	82.05	13.12	3.95	0.88
idem	69.66	16.06	14.28	"
" rosemary	82.21	9.42	7.73	0.64
" peppermint	75.10	13.41	11.50	"
" laurus cinnamon	78.10	10.90	11.00	"
" laurus cassia	76.70	9.70	13.60	"
Camphor	74.38	10.67	14.61	0.34
idem	74.67	11.24	14.09	"
idem	81.763	9.702	8.535	"

If these results are compared with those obtained by the analysis of fixed oils, we see that the volatile oils differ in this: 1st, they contain more carbon; 2d, all have nitrogen, 3d, several do not contain an atom of oxygen, while all fixed oils have some. In the proportion of hydrogen, they are variable.

CHAPTER LIV.

GENERAL PREPARATION OF VOLATILE OILS.

THE distillation of volatile oils deserves to fix the attention of the perfumer. Experience has shown that all parts of the plant do not give them equally; the drier the season, the richer they are in oils; in warm countries, and immediately after blossoming, they are the richest in volatile oils.

The distillation of leaves, flowers, roots, seeds, which contained some, produced more when fresh than when dried; it seems that a part of the volatile oil is lost by desiccation. It is well to remark that the extraction of volatile oil is easier, if you macerate for one day in water the parts of the plant from which you wish to extract them, using this water for the distillation. When you wish to operate on plants of which the trunks are odorless, as the mint, sage, orange, etc., detach the leaves and tops, which macerate one day in an alembic.

If the operation is to be done on barks, roots, etc., which the water penetrates with difficulty, they must be divided to facilitate the extraction of the oil, and for certain flowers and some seeds, we would advise putting them in a willow basket.

We now give the rules that we believe must be followed to obtain good results:—

1. Operate on large quantities, so as to extract more products, and have them of better quality.

2. Distil quickly.

3. Divide the substances so as to facilitate the exit of the oil they contain.

4. Mix a quantity of water, sufficient to prevent the plant from burning.

5. For indigenous substances, *cohober* several times the first water, and distil on a new quantity of substances.

6. For exotic substances, of which the oil is heavier than water, saturate the water of the alembic with salt, which increases its density, and causes it to boil at a higher temperature; ordinary water boils at 212°, and salted water at 219°.2.

7. Use, to begin the distillation, water which has distilled before the same substance, and is consequently saturated with water.

8. Use the Florentine receiver for the oils lighter than water (Fig. 10).

9. For oils naturally fluid, the water of the receiver must be very cold; but keep it at about 86 or 100° for those which solidify easily.

The above rules must be observed for the distillation of plants, flowers, leaves, roots, barks, seeds, etc. It is easy to see that the volatile oils escape with water in vapor, and pass with it in the distillation; if the quantity of water is too large relatively to the quantity of these substances, the oil stays in solution in the water; it is the same if they contain but little oily principles. In every case this water is redistilled constantly on new substances, and then, being saturated with oil, the new portions that they take will swim on the surface, or fall to the bottom, according to the density of the oil.

The liquid which passes in distillation has an opalescent aspect, and clarifies itself in part, and a portion of the oil separates; if heavier than water, it runs by the beak of the Florentine receiver, in the contrary case, it is the water which runs by this issue, whilst the oil stays at the bottom.

It is well to observe that plants do not give annually the same quantities of oil, and that these quantities are relative to the season, more or less rainy, or more or less warm, to the change of weather, to the maturity of the plants, to the nature of the soil, its exposure, etc. These general rules being stated, we shall indicate now the different processes for preparing volatile oils.

The *United States Pharmacopœia* gives the following general directions for their preparation: "Put the substances from which the oil is to be extracted into a retort, or other vessel suitable for distillation, and add enough water to cover it, then distil into a large refrigeratory. Separate the distilled oil from the water which comes over with it. In this manner, prepare the oils of *anise*, *caraway*, *cloves*, *fennel*, *juniper*, *lavender*, *peppermint*, *spearmint*, *horsemint*, *origanum*, *rosemary*, *savine*, *sassafras*."

The *Edinburgh Pharmacopœia* gives the following directions: "Volatile oils are obtained chiefly from the flowers, leaves, fruits, barks, and roots of plants, by distilling them with water in which they have been allowed to macerate for some time. Flowers, leaves, and fruits, generally yield the finest oils, and in greatest quantity, when they are used fresh. Many, however, answer equally well if they have been preserved, by beating them into a pulp with about twice their weight of salt, and keeping the mixture in well-closed vessels.

"Substances yielding volatile oils must be distilled with water, the proper proportion of each varies for each article, and for the several qualities of each. In all instances, the quantity must be such as to prevent any of the material from being empyreumatized before the whole oil is carried over. In operations where the material is of pulpy consistence, other contrivances must be resorted to for the same purpose. These consist chiefly of particular modes of applying heat, so as to maintain a regulated temperature, not much above 212° on the small scale; heat may be thus conveniently applied by means of a bath of a strong solution of chloride of calcium, or by means of an oil bath kept at a stationary temperature, with the aid of a thermometer.

"On a large scale, heat is often applied by means of steam, under regulated pressure. In other operations, it is found sufficient to hang the material within the still in a cage or bag of fine network, and sometimes the material is not mingled with water, but is subjected to a current of steam passing through it. The best mode of collecting the oil is by means of a refrigeratory, from which the water and oil drop together into a Florentine receiver. By attending to the general principles here explained, volatile oils may be readily obtained, of excellent qualities, from the *anthemis nobilis*, *lavandula vera*. From the fruit of the *carum carui*, *fœniculum officinale*, *pimpinella anisum*, from the undeveloped dried flowers of *caryophyllus aromaticus*, from the tops of *rosmarinus officinale*, from the entire herb of *menthæ piperita*, *origanum majorana*, and from the root of *sassafras officinale*."

The *Dublin Pharmacopœia* gives the following directions:—

"The substance from which the oil is to be extracted is macerated for twenty-four hours with five times its weight of water in a sheet-tin or copper vessel, and a condenser being then attached, half the water is drawn over by distillation, on the surface of which the oil will be found to float, unless (which is rare), it should be heavier than water, when it will be found at the bottom of the receiver. The oil having been separated, the aqueous product which is a saturated solution of the oil in water is to be returned to the still, and the distillation resumed and continued till the resulting liquid has the same volume as before. The oil is again separated, the watery product returned to the still, and the distillation resumed. This process is to be repeated, until it ceases to afford any additional oily product.

"The oil is separated as completely as possible from water, and preserved in well-stopped bottles.

"In this way volatile oils may be obtained from the entire herb of *menthæ piperita*, from the seeds of fruit of the *carum carui*, *fœniculum*, *myristica moschata*, *pimpinella anisum*, from the flowers of the *anthemis nobilis*, *lavandula vera*, from the fruit of the *caryophyllus aromaticus*, from the tops of *rosmarinus officinalis*, the bark of the *cinnamon*, etc."

The following table, showing the proportions of volatile oil obtained from the principal substances, according to the most recent experiments, will be found useful in several ways. The numbers represent the number of ounces obtained from 100 lbs. avoirdupois.

Amygdalus communis, bitter almonds.	Raybaud.	0.38
" " "	Voelter.	7.70
" " "	Duflos.	0.8 to 4.8
Angelica archangelica, dried root.	Raybaud.	4.50
Anthemis nobilis, fresh flowers.	Raybaud.	0.75
" " dried "	"	1.38
Calamus aromaticus, fresh root.	Martius.	16.00
" " dried root.	Dann.	14.3
Caryophyllus aromaticus, cloves.	Raybaud.	144.0
" " "	"	152.0
" " "	"	148.0
Cinnamomum zeylanicum, cinnamon.	"	1.56
" cassia,	"	12.00
Citrus aurantium, sweet orange flowers.	"	5.00
" vulgaris, bitter "	"	5.90
" aurantium, rind of 100 oranges by expr.	"	2.50
" " " " " dist.	"	2.75
" vulgaris " " " expr.	"	4.00
" " " " " dist.	"	4 25
" limetta " 100 limes by distill.	"	2.12
" bergamum " " bergamot by dist.	"	2.90
" limonum " " lemon by expres.	"	1.90
" " " " " distill.	"	1.40
Cuminum cyminum, dry fruit.	"	44.00

Fœniculum officinale, dry fruit.	Raybaud.	33.00
Genista canariensis, rhodium wood.	“	0.47
Hyssopus officinalis, flowering herb.	“	5.30
Illicium anisatum, star anise fruit.	“	34.21
Lariæ cedrus, fresh cedar wood.	“	0.30
Laurus nobilis, fresh leaves.	“	5.25
Lavandula vera, flowering herb.	“	11.50
“ spica, “	“	7.62
“ stæchas, dried spikes.	“	6.43
Melissa officinalis, fresh flowering herb.	“	0.25
Mentha piperita, fresh tops or flowers.	“	6.25
“ “ dry “	Martius.	21.0
Myristica moschata, mace of commerce.	Voelter.	154.0
“ “ nutmegs “	Bley.	108.25
Origanum majorana, fresh flowering herb.	Raybaud.	8.5
Pimpinella anisum, dry fruit.	“	35.12
Rosa centifolia, fresh flowers.	“	0.25
Rosmarinus officinalis, fresh flowering herb.	“	5.00
Santalum album, sandal wood.	“	5.00
Thymus serpyllum, fresh flowering herb.	“	5.00
“ vulgaris, “	“	6.50
Zingiber officinalis, dried root.	“	10.80

As it is sometimes important to know the number of drops which certain volatile oils yield to a fluidrachm, the following table, made by Professor Procter, will be found of some value.

The columns of figures represent the number of drops in a fluidrachm of the oils respectively, the first column giving those obtained by dropping the oils from the bottles in which they are commonly kept, the second by dropping them from a minim measure.

Oleum anise	85	86
“ carui	106	108
“ caryophylli	103	103
“ cinnamomi	100	102
“ fœniculi	103	103
“ gaultheriæ	102	101

Oleum hedeomæ	91	91
" mentha piperitis	103	109
" " viridis	89	94
" rosmarini	104	105
" sabinæ	102	108
" sassafras	102	100
" tanaceti	92	111
Creasotum	95	91

CHAPTER LV.

CLASSIFICATION OF ESSENTIAL OILS.

A VERY exact classification of essential oils can be made only when their respective properties shall have been better studied. The best is the one established by Fourcroy. This chemist has divided them into six kinds. 1. *Fugacious oils*, those which can be obtained only by the intermediary of a fixed oil, such as lily, jasmine, tuberose, etc.

2. *Light oils*, those extracted by expression.

3. *Viscous oils*, such as canella, cardamon, cloves, etc.

4. *Concrete oils*, those which, extracted by distillation, solidify on cooling, or crystallize by a slow evaporation.

5. The *cerates*, or those extracted in the concrete state, as nutmeg oil.

6. *Camphorated oils*, or those from which a substance similar to camphor can be extracted, such as lavender, rosemary, etc.

CHAPTER LVI.

ESSENTIAL OILS MOST USED IN PERFUMERY.

In this chapter we shall not observe the classification of Fourcroy, but give our attention only to those oils most used in perfumery.

Jasmine Oil.

In a stoneware jug put a sufficient quantity of jasmine flowers, and pour on them ben oil in proportion, sufficient to cover them. Leave to macerate for fifteen days by exposing the vases, always well covered, to the sun, pass through a cloth, and press slightly. Put back the oil in the jug with the same quantity of flowers, and let it stand fifteen days more. Repeat a third time, and you obtain an oil well saturated with jasmine.

Lily Oil.

Mr. Cannet has given the following process: Take 3 lbs. of good olive oil, or ben oil, and 1 lb. of lily, the stamens of which are separated. Leave the whole to infuse for four days in an earthen jug, pass through a cloth, and express; put the oil back in the vases, with new flowers, and two days after filter and press. You thus obtain a very odoriferous oil.

To separate the vegetation water the oil contains, put it into a bottle which you close with a cork, having a hole in the middle, with a little glass tube; turn the whole over; the oil being lighter comes to the top, and the water occupies the lower part, and you draw it by the tube.

The following oils are prepared in the same manner: Tuberose, jonquille, heliotrope, hyacinth, narcisse, etc.

These oils can also be prepared in the following manner: In the bottom of an earthen vessel place alternately a bed of fine flannel, dipped in ben oil, and a bed of flowers, and so on till the oil is well imbibed; press the flannel, and the extracted oil is treated by alcohol which dissolves the perfume and leaves the oil undissolved.

Jonquille Oil

Is obtained as the above. An imitation is thus made:—

Spirit extract of jasmine powder, 1 part.
" " tuberose, 1 part.
" " fleur d'orange, ½ part.
Extract vanilla, 2 ounces.

True Extract of Jonquille.

Jonquille pomade, 8 lbs.
Spirit, 60° above proof, 1 gal.

Oil of Lily (Imitation).

Take—

Extract of tuberose, ½ part.
" jasmine, 1 ounce.
" fleur d'orange, 2 ounces.
" vanilla, 3 ounces.
" cassie, 4 ounces.
" rose, 4 ounces.
Otto of almonds, 3 drops.

Narcisse Oil. (Daffodil.)

This oil is procured by maceration and enfleurage. When the true oil cannot be obtained it may thus be imitated.

Extract of tuberose, 3 pts.
" jonquille, 2 pts.
" storax, ¼ pt.
" tolu, ¼ pt.

Sweet Pea Oil.

Is obtained by enfleurage and treating the pomade by rectified spirit. It is not much manufactured, but imitated as follows:—

Extract of tuberose, ½ pint.
" fleur d'orange, ½ pint.
" rose from pomade, ½ pint.
" vanilla, 1 ounce.

Lemon Oil.

The oils extracted from the peels of fruit are prepared by expression or distillation. The first process consists of scraping the epidermis of the fresh peel to break all the oily vesicles which covered it, take that pulp and press it between square glasses; that oil deposits by settlement a little parenchyma; when clear keep it in a well closed bottle.

By distillation the peel is distilled with water as is usual with nearly every volatile oil.

The oil obtained by expression is yellow, has a very strong smell, soon becomes thick, is not entirely soluble in alcohol, greases the cloths, and after a long time has a disagreeable odor.

Obtained by distillation this oil is more fluid, has not a smell as sweet, but is more soluble in alcohol and can be kept longer. Lemon oil boils at 345°.2. Its specific gravity = 0.847. Exposed to a cold of 0° it deposits white crystals, newly rectified it stays limpid at this temperature; soluble in all proportions in anhydrous alcohol. 100 parts of alcohol at 0.837 dissolves only 14 parts at 60°8. According to Mr. Dumas' analysis these essences have given him the same composition as the essence of turpentine, bergamot, and cedrat. It contains

Carbon	10 eq. =	60 —	88.23
Hydrogen	8 eq. =	8 =	11.77
		68	100:00

According to Messrs. Blanchet and Shell the lemon oil contains two isomeric oils, one able to form with hydrochloric acid a crystallizable combination, soluble in alcohol; and the other with this same acid gives an uncrystallizable compound, which is decomposed by alcohol. These two chemists called the first *cytronyle*, and the second *citryle*. Mr. Dumas called the first *citrene*.

If you pass pure dried hydrochloric acid in well rectified lemon oil, and let cool slowly, it is converted, the greatest part, into artificial camphor, which is taken out. The mother water exposed to the air is taken in mass, filter, and the new mother waters by their successive exposure to the air give new crystallized camphor.

This lemon camphor, when pure, is very white, with a weak smell, not disagreeable; its crystals are lamellous, very bright, and melt at about 105°. Boiling water takes the excess of acid it contains without changing its nature. By distillation it gives a white transparent oil saturated with hydrochloric acid, and keeping in solution more or less camphor.

According to Dumas it is composed—

Carbon	10 eq. =	60 =	43.16
Hydrogen	8 eq. =	8 =	5.75
Chlorine	2 eq. =	71 =	51.09
		139	100.00

This camphor is decomposed by alkalies, and gives an oil which has the same composition as the oil employed.

Bergamot Oil

Is the volatile oil of the rind of the fruit of the *citrus limetta*, and is obtained in the same manner as the lemon oil. It may be obtained by distillation, but the product is not so agreeable as by expression. The oil has a peculiarly agreeable, rich fragrance, somewhat resembling that of lemon, but more grateful. Its taste is bitter, aromatic, pungent, and its color greenish-yellow. Its specific gravity = 0.885.

Juniper Oil

Is obtained by distilling with water the juniper berries.

This oil is limpid and colorless, or sometimes greenish-yellow; its specific gravity = 0.911. It has the odor and taste of juniper. Water dissolves but a small proportion, and it is not very soluble in alcohol. It is principally used in medicine.

Fleur d'Orange Oil or Neroli

Is extracted from the fresh orange flowers. Recently prepared, it is yellow; exposed to the sun for some time, it becomes yellowish-red; it is very fluid, lighter than water, with an agreeable odor. Its aqueous solution is called *orange flower water;* alcohol at 90° separates a stearoptene which is white, odorless, with a density of 0.913, melting at 122°, and does not crystallize by solidifying. It can crystallize in ether, is soluble in spirit of turpentine; acids and alkalies have no action on it.

To prepare it, the flower must be collected in sufficient quantity and in fine weather. Put it in the alembic with salted water, heat slowly over a water bath, the oil will distil with the water; leave it to settle two or three days, and separate the oil from the water.

Oil of Petit Grain.

This is an inferior *neroli* obtained in the same manner as above, that is, by distillation, but with less care in the choice of the flowers. While the oil is not as good as the first, it is much used in perfumery. Some employ it to adulterate the neroli.

Orange Flower Oil.

Take—

Fresh orange flowers, 4 lbs.
Pure water, 6 qts.

Introduce the flowers into a metallic wire bag, and place it in an alembic, which you shut well, and adapt the refrigerator and heat slowly till the oil stops passing into the receiver. Be careful to keep the water of the refrigerator at a low temperature.

You can also macerate the flowers for twenty-four hours in water containing salt, and afterwards distilling.

Canella Oil

Is obtained by distilling the bark of the *cassia lignea* with a sufficient quantity of water. Baumé, from 12½ lbs., has extracted an odoriferous water containing from a few drops to 1 dr. of an essential oil, fluid, white, with a very agreeable odor. From another bark he extracted 2½ drs. The following process is the best for preparing it:—

Take Ceylon or China canella, crack it, macerate it one day in about ten times its weight of water, add to it common salt, and distil quickly. Stop the operation when the water which distils is not milky, separate the oil from the first water, that oil being lighter than the water swims at the surface, distil again that water three or four times on the same canella to extract all the oil.

There exist in the trade several varieties of canella, and two varieties of oil which are easily distinguished. The China, which is of a brown-reddish yellow with a smell similar to bed-bugs; that of Ceylon, which is sweet.

Canella oil treated by concentrated nitric acid solidifies immediately and forms a true crystallized salt.

Canella oil combines with gaseous and dry hydrochloric acid, the purest takes a dark green shade; it forms with ammonia a crystallizable product, which keeps in the air.

Oxygen is rapidly absorbed by canella oil, principally when damp, it forms a new acid, the *cinnamic acid.*

Nitric acid forms with canella oil benzoic acid, as does the chloride of lime.

The action of chlorine on this oil presents some very interesting phenomena; it forms at first a liquid chloride which seems to correspond to the *chloride of benzoile*, but at last you obtain a crystalline substance which is similar to chloral in its constitution.

Canella oil acts the part of a base, and combines with acids.

Its analysis has given the following results:—

Carbon	36 equiv.	=	216	=	87.08
Hydrogen	16 "		16		6.45
Oxygen	2 "		16		6.47
$C_{36}H_{16}O_2$		=	248	=	100.00

Cinnamic acid has been found in some old canella oils. It is composed of—

Carbon	36 equiv.	=	216	=	81.81
Hydrogen	16 "	=	16		6.06
Oxygen	4 "	=	32		12.13
$C_{36}H_{16}O_4$		=	264	=	100.00

This acid is colorless, melts at 248°, and boils at 559°.4. It distils without leaving any residue, very soluble in alcohol, insoluble in water.

Hydrochlorate of Canella Oil.—The canella oil in contact with hydrochloric acid, absorbs a great quantity of this gas, and takes a greenish shade. It is composed of—

Oil	78.8
Hydrochloric acid . . .	21.2
	100.00

Rhodium Wood Oil

Is prepared as clove oil; 80 lbs. give only 9 drs. This oil is light or slightly yellow, with a very agreeable odor.

Coriander Oil

Is obtained as clove oil. It is yellowish; 82 lbs. of seeds give 10½ ounces.

Chamomile Flowers Oil.

This oil is blue, has an agreeable odor, becomes greenish in growing old. 20 lbs. of the flowers give about 8½ drs. of oil. Its specific gravity = 0.9033. It has the odor of the chamomile, and an aromatic pungent taste.

Is obtained by distillation of the chamomile flowers with water.

Cumin Oil

Has the color of the oil of sweet almonds; 5 lbs. of seeds give 3 ounces of oil.

Clove Oil.

Take—

Cloves, 10 lbs.
Salt, 1 lb.
Water, 20 lbs.

Macerate for twelve hours, and distil till the liquor passes clear in the receiver, the neck of which must be long. The milky liquid obtained soon abandons the oil, which, being heavier than water, falls to the bottom of the receiver; it is separated from the liquid, and the water is advantageously used for some other distillation.

That oil has a yellowish color, a sweet odor, a taste similar to the clove, but much stronger. The salt added has no chemical action whatever in the operation, except to increase the degree of ebullition of the water.

Good cloves yield from one-fifth to one-sixth of their weight of oil. Its specific gravity is between 1.034 and 1.061. It congeals at —4°. It consists of two oils, one lighter, and the other heavier, than water. These two oils can be separated by mixing the oil with a lye of potash and distilling. A colorless oil, with a specific gravity of 0.918, passes over, and is represented by $C_{10}H_8$.

The heavy oil has a specific gravity = 1.079, and boils at 469°.5.

Oil of cloves is soluble in alcohol, ether, and concentrated acetic acid.

Sassafras Oil

Is prepared as the above. 60 lbs. of bark give only 11½ ounces of oil. Its specific gravity = 1.094; at first it is colorless, but it gradually acquires a reddish tint; it has the peculiar and agreeable fragrance of sassafras, and a hot aromatic taste. It is composed of two oils, one heavier, and the other lighter, than water. Exposed to the air, it deposits *stearoptene.*

Anis Oil

Is extracted from the seeds of the *pimpinella anisum* plant, of European origin. Its fruit contains a little almond, which contains a fine oil, while its envelope gives, by distillation with water, a volatile oil which crystallizes by a slight cold. Its color is dirty gray, soluble in water and alcohol. It has the smell and taste of anis.

The seeds yield from 1.56 to 3.12 per cent. of oil; its specific gravity varies from 0.9763 to 0.9903. At 50° it forms a concrete crystalline mass, and does not melt at 62°. The two oils have the same composition, and are represented by $C_{10}H_6O$. It is composed of—

Carbon	80.24
Hydrogen	8.55
Oxygen	11.21
	100.00

The oil obtained by rubbing anis and pressing it, is a mixture of sweet and volatile oils.

Badiane Oil.

The fruit of the *illicium anisetum* furnishes this oil. This fruit has the aspect of a star; it gives, by distillation, an oil with an odor and taste similar to that of anis, but sweeter.

Wintergreen Oil

Is prepared by distilling the plant with water. When first produced it is nearly colorless, but becomes more or less of a deep yellow or red by age. It has a peculiar and agreeable odor and a pungent taste. Its specific gravity = 1.173. It boils at 412°.

Caraway Oil.

This oil is separated from the fresh fruit by distillation with water. It yields about 4.7 per cent.; it is at first yellow, but becomes brownish by time; it has the odor of the fruit with an aromatic taste; its specific gravity = 0.946 to 0.931. It consists of two principles, a hydrocarbon, $C_{10}H_8$, *the Carvene*, and an oxygenated oil, the *Carvacrol.*

Fennel Oil.

The *anethum fœniculum* presents three varieties, viz:—

The *fœniculum vulgare germanicum.*

The *fœniculum vulgare acriori et ingriori semine.*

The *fœniculum dulce.*

The seeds of fennel are composed of two seeds joined together; their savor is agreeable, and is nearly similar to that of anis; the largest are the best, and they must have a pale green color.

These seeds, distilled with water, produce an oil which crystallizes as that of anis, but this crystallization begins only at about 20°.

5 lbs. of fennel give 2 ounces of oil. Its specific gravity = 0.997 to 0.999. It contains a liquid and solid principle. It is formed of—

Carbon .	13 eq.	= 78	=	76.14
Hydrogen .	8 "	= 8		8.49
Oxygen .	2 "	= 16		15.47
		102		100.00

Rose Oil.

This oil is prepared principally in Turkey and Persia from the pale rose and muscate rose, which has a stronger smell.

This oil is obtained by distilling several times the same water on the rose. The oil presents itself in the form of a crystalline mass, which melts by the heat of the hand in the liquid, in which the crystals seem to be in suspension; in that state it is transparent, and has a white-greenish color. Pure, its smell is very strong; weakened by other oils, it is very sweet. It is soluble in water, to which it communicates its smell, soluble in boiling alcohol; cold, this solvent separates it into two parts, one liquid and soluble in alcohol, and the other insoluble. These two oils are odoriferant.

Its specific gravity = 0.832; it dissolves in about 130 parts of alcohol; it is formed of

Carbon	23 eq. =	138 =	74.59
Hydrogen	23 " =	23 =	12.43
Oxygen	3 " =	24 =	12.98
	49	185	100.00

Another Preparation.

Take—

Fresh roses, 50 lbs.
Water, 10 qts.
Salt, 1 lb.

Fix a little grate in the bottom of the still and put the flowers on, add the necessary water and distil till the oil stops passing. Take the oil, filter it, and keep it in well-closed bottles.

Peppermint Oil.

There are several kinds of mints, viz:—

The *Mentha aquatica*, *M. gentilis*, *M. crispa*, *M. piperita*, *M. pulegium*, *M. sylvestris*, *M. rotundifolia*, *M. viridis.*

The mint family possesses an odor more or less strong and agreeable, which is due to an essential oil extracted by distillation. The principal species used to obtain it are the *M. crispa* and *piperita.*

The oil is prepared by distilling those plants with water, redistilling the water, which has passed, on new plants, and following the same method as for lavender oil.

To obtain a larger quantity of oil you must take the mint at the time of its flowering, and before distilling take out the trunks and leave to macerate one day in water.

Its color is greenish; its odor and taste are very strong; soluble in alcohol and water; its specific gravity = 0.902 to 0.920; it boils at 365°, and at 3° it deposits fine crystals of stearoptene. Its composition is represented by $C_{21}H_{20}O_2$.

Rosemary Oil.

The rosemary is a little tree growing naturally in the south of France. The distillation of the flowers gives a colorless oil, lighter than water, with a spec. grav. of 0.9109. It boils at 329 . Its composition = $C_{45}H_{38}O_2$. Rectified, its spec. grav. = 0.8886. It requires 40 parts of alcohol to be dissolved.

It contains $\frac{1}{10}$ of its weight of camphor; 24 lbs. of flowers have given 1 ounce of oil.

Lavender Oil.

By the distillation of the flowers of the *lavandula vera* a yellowish oil lighter than water can be extracted, its density = 0.898, and rectified is 0.877. The oil of murcie contains 0.25 of camphor; 15 lbs. of flowers have given 5½ ounces of oil.

Soluble in all proportions in alcohol at 0.830, and incompletely in acetic acid. Exposed to the air it absorbs oxygen to the amount of 120 volumes in 4½ months.

Marjolaine Oil.

The marjolaine, *origanum majorana*, is originally from Barbary. It gives by distillation an oil with a strong odor.

150 lbs. of this fresh plant have given 15 ounces of oil.

100 lbs. in August have given 4 ounces. 156 lbs. in June have given 3½ ounces. This oil contains $\frac{1}{10}$ of its weight of camphor.

Sage Oil.

There are more than 50 known species of sage, but the oil is extracted only from the *officinal*, *salvia officinalis.* Distilled with water, this sage gives an oil slightly yellowish, with a strong and agreeable odor. It contains much camphor.

46 lbs. of great sage in flowers have given 2½ ounces of oil.

Thyme, Wild Thyme, and Hyssop Oils.

To obtain good oil, the thyme must be in flower, and cut during dry and warm weather. The flowers alone are used.

Take 4 quarts of water for every 2 pounds of flowers, and when the still is full, shut it well and keep it at a very gentle heat for six hours.

Then take this alembic from the fire; let it cool; pass the whole through a cloth and press well.

If you have extracted 10 quarts of liquid add to it 3 pounds of flowers, which you infuse the same length of time, put over the water bath and distil quickly.

Separate the oil, and keep in well-stopped bottles.

Nutmeg Oil.

This oil is extracted from the nutmeg, fruit of the *myristica moschata*, a tree growing in the Molucca Islands. This oil is found in the trade in square cakes, long, solid, with an odor well characterized of nutmeg and with a marbled yellow color.

It is prepared by rubbing the nuts in a heated iron mortar; rub them till they are reduced into paste, which is placed in a linen bag between two warm iron plates, and submitted to the action of a good press. The running oil solidifies by cooling.

This oil is composed of a sweet and a volatile oil, which is fluid and volatilizes by distillation with water. It is very aromatic. The other oil is thick and has very little odor.

Amber Oil.

Take 1 pint of common amber oil, and mix it with 6 pints of distilled water. Distil until 4 pints have passed into the receiver, separate the oil and keep in well-closed bottles.

Its color is a light yellowish-brown, with a powerful odor and an acrid taste. Soluble in 8 parts of alcohol at 0.847. Soluble in all proportions in rectified alcohol. Its specific gravity = 0.758. It boils at 186°.

The crude oil is prepared as follows: Put any quantity of amber, mixed with its weight of sand, in a glass retort, then distil by means of a sand bath, gradually increasing the heat; an acid liquor, an oil, and a concrete acid pass at the distillation. Separate the oil from the other substances and keep it in well-stopped bottles.

Oil of Bitter Almonds.

We have seen how this oil can be obtained. It has a golden yellow color, heavier than water, has a strong but agreeable odor of hydrocyanic acid. Exposed to the air it absorbs oxygen. It is formed of two oils, the one which comes first in the distillation is more volatile and contains more hydrocyanic acid, the other is not poisonous.

The oil of bitter almonds combines with alkalies and absorbs a great quantity of ammoniacal gas. Treated by nitric acid it forms benzoic acid. This oil is thus composed—

Carbon	14 eq. =	84 =	79.25
Hydrogen	6 eq. =	6 =	5.66
Oxygen	2 eq. =	16 =	15.09
		106	100.00

Violet Oil

Is prepared in the following manner: Take 6 to 8 lbs. of violet pomade, chop it up fine, and place it in 1 gallon of rectified spirit; allow it to digest three weeks or one month, strain off, and to every pint add 3 ounces tincture of orris root and 3 ounces esprit de cassie.

A good imitation is thus prepared—

Spirit extr. of cassie pomade, 1 pint.
" of rose from pomade, ½ pint.
Tincture of orris, ½ pint.
Spirit extr. of tuberose pomade, ½ pint.
Otto of almonds, 3 drops.

Oil of Volkameria.

This oil is not sold genuine, but is imitated as follows:—

Esprit de violette, 1 pint.
" tubéreuse, 1 pint.
" jasmin, ¼ pint.
" rose, ½ pint.
Extr. de musc, 2 ounces.

Oil of Wallflower

Is obtained as the heliotrope or jasmine, but the greatest quantity sold is thus made—

Extr. de fleur d'oranger, 1 pint.
" vanilla, ½ pint.
Esprit de rose, 1 pint.
Extract of orris, ½ pint.
" cassie, ½ pint.
Essential oil of almonds, 5 drops.

Oil of Sweet Brier.

This oil is known only by name, as its fragrance is destroyed by treatment. As this article is much in demand, an imitation is made as follows:—

Spirit extr. of French rose pomade, 1 pint.
" " cassie pomade, ¼ pint.
" " fleur d'orange pomade, ¼ pint.
Esprit de neroli, ¼ pint.
Oil de neroli, ½ pint.
Oil of lemon grass, ½ pint.

Oil of Heliotrope.

This oil is obtained as the jasmine. A perfect imitation is thus made—

Spirit extr. of vanilla, ½ pint
" " French rose pomade, ¼ pint.
" " orange flower pomade, 2 ounces.
" " ambergris, 1 ounce.
Essential oil of almonds, 5 drops.

Oil of Honey-suckle

Is obtained as the jasmine; a perfect imitation is thus prepared—

Spirit extr. of rose pomade, 1 pint.
" " violet pomade, 1 pint.
" " tubéreuse pomade, 1 pint.
Extract of vanilla, ¼ pint.
" tolu, ¼ pint.
Otto of neroli, 10 drops.
" almonds, 5 drops.

Oil of Hoveniæ.

This oil is not sold pure, it is imitated as follows:—

Rect. spirit, 1 qt.
Rose water, ½ pt.
Otto of lemon, ½ oz.
" rose, 1 dr.
" clove, ½ dr.
" neroli, 10 drops.

Oil of Lilac.

This oil is obtained by maceration or enfleurage with grease, and the pomade thus formed is treated with rectified spirit. A beautiful imitation is compounded thus—

Spirit extr. from tubéreuse pomade, 1 pt.
" " orange flower, ¼ pt.
Otto of almonds, 3 drops.
Extract of civet, ½ oz.

Oil of Magnolia.

This oil cannot be extracted easy, and the French perfumers sell an imitation prepared in the following manner:—

Spirit extr. of orange flower pomatum, 1 pt.
" " rose pomatum, 2 pts.
" " tubéreuse pomatum, ½ pt.
" " violet pomatum, ½ pt.
Otto of lemon zeste, 3 drachms.
" almonds, 10 drops.

Oil of Myrtle.

A fragrant otto may be produced by distilling the leaves of the common myrtle; 100 pounds give about 5 ounces. This oil is rarely genuine, but thus imitated:—

Extract of vanilla, ½ pint.
" roses, 1 pint.
" fleur d'orange, ½ pint.
" tuberose, ½ pint.
" jasmine, 2 ounces.

Oil of Verbena.

This oil can be extracted from the leaves by distillation with water, but on account of its high price it is rarely used. It is imitated in the two following manners:—

1st, Take—
Rect. spirit, 1 pint.
Otto of lemon grass, 3 drs.
" lemon peel, 2 ounces.
" orange, ½ ounce.

Let it stand a few hours, and filter.

2d, Take—
Rectified spirit, 1 pint.
Otto of orange peel, 1 ounce.
" lemon peel, 2 ounces.
" citron zeste, 1 dr.
" lemon grass, 2½ drs.
Extract of fleur d'orange, 7 ounces.
" tuberose, 7 ounces.
Esprit de rose, ½ pint.

CHAPTER LVII.

ADULTERATIONS AND FALSIFICATIONS OF ESSENTIAL OILS—COMPTE-GOUTTE.

The most frequent adulterations in essential oils are the following:—

1. By fixed oils, rosins, and balsam of copaiba.
2. By alcohol.
3. By the same oil, but old and without any or with very little value.
4. By spirits of turpentine.

ADULTERATIONS BY FIXED OILS, ROSINS, AND BALSAM OF COPAIBA.

Those substances are easily ascertained in a volatile oil; for this purpose pour some of the oil on a sheet of paper and heat it; if the paper remains spotted, it is a proof that a fixed oil, rosin, etc. have been mixed with the volatile oil. The exact quantity can be determined by distillation.

A surer method is to treat the suspected oil with alcohol which dissolves the volatile oil, and leaves the fixed oil in the bottom of the vase.

Adulteration by the same Oil.

To ascertain altered oil, in the same volatile oil, is a very difficult matter. The smell and great practice alone can detect it.

Adulteration by Alcohol.

Volatile oils mixed with alcohol are less odorous but more fluid; mixed with water they become milky, and this fluid dissolves a larger quantity of oil than when pure.

It is very difficult to separate alcohol when a small quantity has been used; the following method has been proposed.

In mixing a little potassium with a pure oil no action is observed between the two bodies, but if the oil contains 25 per cent. of alcohol the potassium immediately takes the aspect of a globule of mercury, ebullition takes place, and it disappears. If alcohol enters only for $\frac{1}{16}$, $\frac{1}{12}$, $\frac{1}{18}$, or even $\frac{1}{25}$ in the mixture, the same phenomenon appears, but very slowly and without noise.

This method, which is very simple, enables us to discover not only alcohol in volatile oils, but also approximatively its relative quantity by the examination of the phenomena which are quick or slow according to the proportion of alcohol.

All volatile oils, in 12 drops of which a small piece of potassium can remain 12 or 15 minutes without disappearing, are free from alcohol, or do not contain $\frac{1}{25}$ of it.

All volatile oils in which potassium disappears after 5 minutes contain more than $\frac{1}{25}$.

If potassium disappears in less than one minute the oil contains at least 25 per cent. of alcohol.

To ascertain the presence of alcohol you can also use the following process: In a small glass tube introduce a few pieces of perfectly dried chloride of calcium without dust, fill the $\frac{2}{3}$ of the tube with the oil to be examined; heat at 212°, shaking occasionally. If there be a considerable quantity of alcohol, the chloride of calcium is dissolved, and forms a solution standing at the bottom of the tube; if in a very small quantity the pieces lose their form, and collect at the bottom in the form of a white adherent mass.

Acetate of potash can be used instead of chloride of calcium, the phenomena being the same.

A method which has always succeeded, when alcohol was in a suitable preparation, is to introduce the oil into a graduated glass tube; measure its volume, and add to it a large amount of water, shake it well, and let it stand twenty-four hours. Measure the oil again, and the difference in volume shows the quantity of alcohol mixed with the oil.

Adulteration by Spirit of Turpentine.

To determine the adulteration by spirit of turpentine, it is sufficient to rub some of it between the fingers, when the particular odor of turpentine is strongly developed.

Oil of turpentine acts on potassium as alcohol; this property enables us to ascertain its presence in volatile oils, when they contain $\frac{1}{4}$ or $\frac{1}{3}$ of it.

Lately two reactions have been proposed by which volatile oils can be divided into two groups.

Every one knows that some oils do not contain oxygen, while the greater number have some in their composition. Mr. Hoppe presents the following mode of ascertaining whether an oil belongs to one group, or to another:—

He takes a very small piece of nitrocyanide of copper (prepared by precipitating a soluble salt of copper by the nitrocyanide of sodium, washing the precipitate, and drying it at 212°). He boils it a few minutes with a little of the oil, and leaves it to settle. The oil which does not contain oxygen gives a green or bluish-green precipitate, whilst the oil which is at the surface is colorless, or slightly yellow. In oxygenated oils, free from mixture, the nitrocyanide of copper becomes black, gray, or brown, and the oil acquires a darker shade, *i. e.*, dark-yellow, brown-yellow, or greenish-brown.

We shall terminate this chapter by an examination of the adulteration in some volatile oils I have had occasion to examine.

Anis Oil.—I have examined one kind, thus composed—

Alcohol	85
Anis oil	5
Soap	10
	100.00

The oil was covered by a layer of pure oil; I heated it in a retort with a little distilled water, the soap was dissolved, and could be precipitated by lime-water.

Canella Oil.—The Ceylon oil is often mixed with the China. This fraud is easily detected by smell, China oil having a very strong disagreeable odor of bed-bugs.

Neroli.—I have seen many specimens of neroli mixed with alcohol, which I detected by chloride of calcium.

Spike Oil is adulterated with rosemary or turpentine oils. If it contains turpentine, iodine mixed with it explodes more or less strongly; if rosemary oil, it can be known only by comparison with a pure oil.

CHAMOMILE OIL is adulterated with turpentine or lemon oil. Turpentine is ascertained by iodine, and lemon oil by comparison with a pure oil.

LAVENDER OIL is mixed often with turpentine and spike oil. The fraud can only be detected by comparison.

CLOVE OIL is often mixed with a fixed oil, and an alcoholic tincture of cloves. Fixed oil is discovered by alcohol, which dissolves the clove oil. The alcoholic tincture is shown by potassium or water.

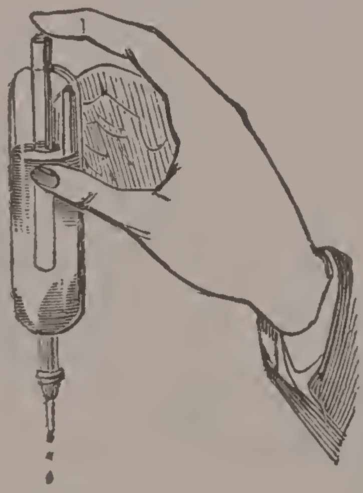
SASSAFRAS OIL.—It is rare to find it pure, it is often mixed with lavender, cloves, or turpentine. On pouring it into water, sassafras oil is precipitated to the bottom of the vessel, whilst lavender oil comes to the surface. If it is oil of turpentine, distilled with water, the sassafras oil is precipitated, whilst turpentine swims at the surface. If it be cloves and turpentine, distil with water, containing one-third of its weight of caustic soda; the distilled liquid has turpentine at the surface, sassafras at the bottom, and the water of the retort evaporated, left to crystallize the combination of cloves and soda.

ROSE OIL.—I have seen some rose oil which was only a solution of gelatine covered with a bed of pure otto; sometimes it is santal oil, or grease, which renders it less congealable. Some have been bold enough to manufacture a solution of spermaceti and fixed oil, aromatized with pure otto. When rose oil contains fixed oil, it can be saponified by an alkali; if it contains alcohol, it is known by water or potassium.

Compte-Goutte. (Drop-Counter.)

In the perfumery trade it is often necessary to pour out a few drops of oils, solutions, tinctures, etc. This operation was done approximatively, till Mr. Salleron invented for this purpose a little apparatus, represented below.

Fig. 28.



This apparatus is composed of a little bottle, constructed in such a manner as to permit the drops of the liquid it contains to run and fall regularly. The dimensions of the opening are so calculated, that the weight of one drop of distilled water is ¾ of a grain.

All liquids not having the same specific gravity, or the same cohesion, it results, then, that the drops of different liquids have different weights.

Mr. Salleron has obtained by experiment the weight of a drop of those liquids most usually employed in medicine, but his experiments have not been made on liquids employed in perfumery. We shall try to render this apparatus useful to the perfumer.

The number of drops of different liquid bodies which represent 1 gramme (15½ grs.), being the inverse proportion of the density of these liquids, and in remembering that the compte-goutte is established so that 1 drop of water weighs ¾ of a grain, or 20 drops weigh 1 gramme (15½ grs.), you can operate as in the following example:—

Let us suppose that the perfumer has to add 1 gramme (15½ grs.) of lemon oil to a certain preparation. While lemon oil has a density of 0.847, that of water being 1.000, we can make the following proportion:—

$$\frac{1}{\text{density of water}} : \frac{0.847}{\text{density of the oil.}} :: x : 20$$

$x = 23.6$, which shows that you must let run from 23 to 24 drops of the oil to have 1 gramme (15½ grs.).

One drop of lemon oil dropped by the *compte-goutte* weighs 0.0423 gramme; and this is a sufficient basis for resolving a second problem.

We have to add $0.^{\text{gramme}}6$ (9 grains) of lemon oil to an alcoholat; in this case each drop, weighing 0.0423, it needs to weigh $0.^{\text{gramme}}6$.

$$\frac{0.^{\text{gramme}}6}{0.0423} = 14.18 \text{ drops, or about 15.}$$

We have now to divide 16 grammes (248 grs.) of peppermint oil into 25 portions. How many drops will enter into each portion?

We say peppermint oil has a density of 0.850, consequently, as above explained, a drop will weigh 0 gramme .04251. The 16 grms. of oil, then, contain 3763 drops, and it will take about 150 drops to each portion.

We do not pretend that an absolute exactness is obtained, because account must be kept of the cohesion of the liquid and the temperature, but we believe this process is sufficiently accurate for practical use.

To use the compte-goutte, open the bottle, pour into it the liquid you want to measure, shut it, and turn over the bottle. The liquid escapes drop by drop through the tube fixed in the cork.

You can stop the running immediately by putting your finger on the extremity of the tube.

CHAPTER LVIII.

DISTILLED WATERS.

Under the name of *aromatic distilled waters* are understood the aromatic products obtained in using water as a vehicle to take from the odoriferous matters, the principle which constitutes their odor.

Often the perfumer purchases the aromatic waters from large establishments, but as he prepares some himself, he must understand their preparation.

In Chapter LIV. we have indicated the rules to be followed in the distillation of volatile oils, the same rules are to be observed in the preparation of aromatic distilled waters.

Aromatic waters do not keep well; to preserve them they must be in opaque vessels, in a cool place, and in the dark. Once opened, the bottle must not be shut with a cork, but with a paper. If these waters do not keep transparent, they have to be filtered, in adding to them 7 or 8 drops of vinegar by a quart of water; then filter, or better, add 31 grs. of borax or alum. For those which become acid, they are re-established with magnesia.

Eau de Fleurs d'Oranger, Simple, Double, Treble, Quadruple.

Take—

Orange flowers, free from stems, 12 lbs.
Pure water, 4½ gals.

Bring the water in a still nearly to a boil, and then carefully add the flowers; put on the head, and distil. If 2 lbs. of water to every 1 lb. of flowers are run off, the product is named *double orange-flower water.* If 3 lbs. of liquid to 2 of flowers, it is called *triple*, and finally, it is named *quadruple*, when but 1 lb. of water is drawn over 1 lb. of flowers.

The *simple orange-flower* water is the double diluted, with its own bulk of distilled water.

The perfumers in Grasse prepare another orange-flower water from the stems of the flowers and the fresh leaves, to which they add 1 dr. of neroli to every 1½ gal. of water. Thus obtained, it is less pleasant, but is considered as a good stomachic cordial. If fresh flowers are not at hand, salted ones answer the same purpose.

Another Process.

Take—

Orange flowers free from stems, 10 lbs.
Water, 10 gals.
Salt, 1 lb.

After putting the water and salt into the still, bring it to a boil; put the orange-flower into the water-bath, and distil. If you distil 5 gallons, you have the orange-flower water simple; for the double or the treble, take the ⅔ or half. If the water is acid, saturate it with magnesia, or better, add in the still ½ an ounce of magnesia for every pound of flowers.

Eau de Rose, Simple, Double, Treble, Quadruple.

Take—–

Fresh rose leaves, 15 lbs.
Water, 5 gals.

To obtain this water very strong, and surcharged with oil of rose, redistil the first liquid over fresh flowers, or run off less water from the still. The double, treble, etc., are prepared the same as for orange water.

Another Process.

Take—

Fresh rose leaves, 40 lbs.
Water, 10 gals.
Salt, 2 lbs.

Distil over a water-bath until you have extracted 5 gallons.

Eau de Roses without Distillation.

Pour a few drops of pure rose oil in one pint of water, which you introduce into a large bottle, and shake well till all the oil is uniformly distributed in the water; repeat the shaking several times, and filter.

Eau de Rose Salée.

When the season does not permit of employing fresh roses, you can prepare a very good water with the salted flowers; for this dissolve enough salt in boiling water, and dip the roses in it; they can be kept that way for six months, and while they have become brownish, they give a very good water.

Eau d'Œillet.

Take—

Flowers of pink, 20 lbs.
Water, 10 gals.
Salt, ½ lb.

Distil 5 gallons, operating as above.

Eau d'Hyssop, de Lavendre, de Melilot.

Take—

Fresh tops of the flowers, 20 lbs.
Water, 10 gals.
Salt, ½ lb.

Macerate in water, and distil 5 gallons.

Eau de Menthe.

Take—

Fresh mint in flowers, 20 lbs.
Water, 10 gals.
Salt, ½ lb.

Macerate and distil 5 gallons.

Prepare in the same manner the waters of *melisse*, *rosemary*, *sage*, *and thyme.*

Eau de Laurier Cerise.

Take—

Fresh laurel leaves, 20 lbs.
Water, 5 gals.
Salt, ½ lb.

Macerate the leaves, and distil 2½ gallons.

Eau d'Amandes Ameres.

Take—

Torteau of bitter almonds, 2 lbs.
Water, ½ gal.

Leave it to macerate 24 hours; distil 2 quarts and filter.

Eau de Cassie.

Operate as the above.

Eau de Giroflée.

Is obtained by the same process as rose water.

Eau de Lys, Muguet.

These waters are obtained as rose water.

Eau d'Anis.

Take—

Dry Anise seeds, 5 lbs.
Water, 2½ gals.

Distil off 1¼ gallon of water.

Eaux de Fenouil and Coriander.

These waters are obtained as anise water.

Eau de Zestes, de Citron, d'Orange Amere.

These are distilled in the same proportions and same manner as the aforementioned.

Eau Laiteuse de Citron.

Take

Fresh lemon peels, 3 lbs.
Water, 5 qts.
Alcohol, 4 oz.

Macerate two days; distil over a water bath, and extract 1½ quart.

Eau d'Ange distillée.

Take

Benzoin, 4 oz.
Storax, 2 oz.
Santal, 1 oz.
Cloves, 2 drs.
Orris root, 2 or 3 pieces.
½ of a lemon peel.
Nutmeg, 2.
Canella, ½ oz.
Eau de roses, 2 qts.
" fleurs d'oranger, 1 pt.
" melisse, 1 pt.

Introduce the whole into an alembic, and distil.

In the trade there are found some waters which have not been distilled, but are manufactured by triturating the oil with sugar or carbonate of magnesia, adding water, stirring well, and filtering after a few hours rest.

These waters have not so fine a perfume, and must be used only for secondary products.

CHAPTER LIX.

SPIRITUOUS ODORS OR EXTRACTS.

These spirits are alcoholic extracts of the perfumes contained in pomades or fatty bodies.

1*st process for extracting the perfume from greasy bodies.*—Into each of three digesters or vessels, with well fitting covers, and all heated by water-baths, put 25 lbs. of any perfumed antique oil, and pour on the first, 6¼ gallons of spirit; agitate and digest the whole for three days; at the end of this time decant the spirit thus perfumed, and pour it anew into the second vessel, and afterwards repeat the operation as at first upon the third quantity. This spirit thus obtained will be complete.

2*d process.*—Select a deep and sufficiently large stoneware vessel, and in it melt, by means of a water-bath, 4 pounds of double pomade from flowers, and then add thereto 4 quarts of perfectly inodorous alcohol; cover the vessel well, and digest the whole for two weeks or a month, stirring frequently with a spatula. The interval having passed, the greasy matter will have entirely subsided to the bottom of the vessel, from which carefully decant the supernatant spirit. Repeat this operation thrice successively, each time suppressing a quart of the spirit, and serving always the same pomade.

After the pomade is thus exhausted of its perfume, it is used as a plain body, or mixed with beef marrow or suet.

Extract or Esprit de Rose.

This is obtained by the modes above described, and serves in the composition of fragrant waters. A few drops of oil of rose or rhodium increase the odor.

Esprit d'Oranger.

The same operation serves for this spirit as for the others. Mixed with $\frac{1}{2}$ of orange flower water it is the *eau de fleurs d'oranger spiritueuse.*

Esprit de Jasmin.

Obtained in the same way as above. Diluted with equal parts of alcohol, and an addition of 2 drachms tincture of benzoin and as much of amber, it forms the *eau odorante de jasmin.*

Esprit d'Acacia.

Is obtained as before stated, and serves as an admixture for waters of orange-flower, neroli, essence of Portugal.

Esprit de Tubéreuse.

Same as above; equal parts of alcohol, spirit of tuberose, a half of single orange-flower water, 2 drs. balsam Tolu, and as much amber per quart, forms the *eau odorante de tubéreuse.*

Esprit de Violette.

Having procured the spirit as before directed for other similar ones, infuse in each quart 4 ounces of powdered orris root, and 4 ounces acacia flowers, stirring from time to time, during one month.

Thus proceed with all the other flowers. It is needless to name each separately.

SECTION XI.

COLORS—INFUSIONS—TINCTURES—SPIRITS—AROMATIC ALCOHOLS.

CHAPTER LX.

COLORS.

COLORS are generally tincture, *i. e.*, alcoholats of coloring matters obtained without distillation with the help of maceration.

Red.

1. Take—

Powdered cochineal, 1 ounce.
Powdered alum, 1½ dr.
Cream tartar, 1½ dr.
Water, 14 ounces.

Boil the water, throw the cochineal in, and after a few minutes boiling, add the alum and cream of tartar. Leave it to cool.

This color can be used for pomades, powders, pastes, etc., but if desirable to keep it, it must be diluted with 1 pint of alcohol. It gives good colors, from light rose to dark red.

2. A good red color can be produced by macerating 4 ounces of orkanet in 1 pint of alcohol.

3. The madder macerated in alcohol can be used to color products.

4. Use in the same way the hematine or coloring

principle of logwood, of which you infuse for a few days 1 ounce in 1 pint of alcohol.

5. The archil can be used in the following manner:—

For a common red, take 14 ounces of archil in paste, and macerate it for a few days in a quart of alcohol; decant and filter.

For an ordinary red take powdered cudbear 14 ounces, and macerate it a few days in 1 quart of alcohol; decant and filter.

Yellow.

1. Take 4 ounces of turmeric; leave it to macerate in 1 quart of alcohol for a few days; decant and filter. It gives a solution which has a weak coloring power.

2. Take 4 ounces of saffron, boil it in 1 quart of water; leave it to cool; press in a cloth; boil the residue in another quart of water; mix the two products and add then 1 quart of alcohol; exhaust the residue in macerating it in 1 quart of alcohol.

3. Make an infusion of fustic in alcohol; it gives a fine yellow orange infusion.

4. You can also use an infusion of violet in alcohol.

5. An alcoholic solution of yellow wood gives a very fine yellow with alkalies, and an orange greenish-yellow with acids.

Blue.

1. Take 5 drachms of finely powdered indigo, and dissolve it in 7 ounces of sulphuric acid at 66°, and when dissolved dilute with 1 quart of water, then throw in the liquid ½ pound of chalk, stir well, and when the effervescence has stopped shake it, and leave it to settle; decant and filter. Add 4 ounces of alcohol.

2. Prepare also a fine color by diluting a sulphuric solution of indigo with a considerable quantity of water, boiling and putting in the bath a white woollen cloth; take out the cloth; wash it several times, and boil it in a water containing in solution a few grains of carbonate of soda. The blue color is dissolved, and is kept by adding to it some alcohol.

Violet.

1. Mix the red and blue colors together.
2. The infusion of Brazil wood and logwood in alcohol with a little bitartrate of potash gives reddish colors with a violet shade.

Green.

1. Mix the yellow and blue colors together.
2. Some fresh leaves macerated in alcohol give a nice green color.

New Colors.

Of late, chemistry has discovered some new colors which are distinguishable by their brightness and solubility in alcohol, and without doubt can be used succesfully in perfumery.

The principal of these colors is the *coal tar.* Those substances are the *aniline* and its homologues.

Aniline was discovered in 1826, and is obtained by different processes, but is now principally extracted from coal tar. The *benzole* of the tar is extracted first, converted into *nitro-benzole* by nitric acid, and is transformed into aniline by submitting it to the action of acetate of iron.

Aniline gives birth to many coloring matters which are called *purple of aniline*, *roseine*, *futschine*, *bleu de Paris*, *nitrophenyline*, etc.

The *purple of aniline*, called also *purple of Tyre*, is prepared by mixing in equivalent proportions, sulphate of aniline and bichromate of potash, and leaving the mixture alone till the reaction is complete. The black precipitate is thrown on a filter, and well washed to dissolve the sulphate of potash, and then dried. This dry product is digested several times with light naphtha oil, and boiled in alcohol to dissolve the coloring matter. By distilling the alcoholic solution, the coloring matter stays at the bottom of the retort in the form of a solid substance with a bronze shade. This color is soluble in warm water and is also soluble in alcohol; a few grains are sufficient to color a large quantity of alcohol.

The *violine* results from the oxidation of aniline; it is prepared by heating a solution, containing 2 eqs. of sulphuric acid and 1 eq. of aniline, adding to the boiling mixture 1 eq. of binoxide of lead, boiling and filtering. Boil the filtrate with potash, and filter; wash; dissolve in a solution diluted with tartaric acid; filter, evaporate, and precipitate by an alkali. The violine thus prepared is a blackish purple powder, slightly soluble in water, and very soluble in alcohol.

The *roseine* is obtained by adding to a boiling solution of 1 equiv. of sulphate of aniline, 2 eqs. of binoxide of lead; filter, evaporate, and precipitate the coloring matter by an alkali. The precipitate is collected on a filter, slightly washed and dried. This coloring matter is soluble in water and alcohol.

The *futschine* is prepared at a temperature between 338° and 374° by the reaction on aniline on bichloride of tin or nitrate of mercury. It is soluble in water and alcohol.

The *bleu de Paris* is prepared by heating during 30 hours at 356° in a close vessel 9 ounces of bichloride of tin and 16 ounces of aniline. This blue is soluble in water, alcohol, wood spirit, and acetic acid.

The *emeraldine* or *aniline green* is obtained by different processes, principally by oxidizing aniline by chloric acid. It is effected by mixing a solution of aniline in hydrochloric acid with chlorate of potash. It is insoluble in water, alcohol, ether, and benzole, but soluble in sulphuric acid.

Picric Acid is prepared by treating with nitric acid many substances, such as indigo, aniline, aloes, gums, etc. It is soluble in water, and colors it bright yellow.

Naphthaline by proper treatment gives coloring matters which are yellow, orange, crimson. The *nitro-naphthaline* is violet, the *naphthaline* is blue, the *azuline* gives a blue superior to Prussian blue.

These colors are now used largely in France and England for the coloration of fancy soaps, and can be advantageously employed for the coloration of transparent soaps without destroying their transparency; nevertheless we caution the perfumer to be careful in their use, and not employ them indiscriminately for every product.

CHAPTER LXI.

SPIRITUOUS INFUSIONS.

LEAVES, flowers, roots, woods, etc., and perfumes of animal origin, all serve to furnish these tinctures. The substances are either cut, rasped or bruised according to their nature, and infused from a few days to a month, taking care not to fill the vessel so full as to prevent its contents being stirred up occasionally. These infusions are made either with alcohol or brandy.

Infusion de Lavende.

Take—

Lavender flowers, 2 lbs.
Brandy, 3 qts.

Infuse for six weeks in a close vessel; strain and bottle up.

Infusion de Lavande Rouge.

Take—

Spirit of lavender, 3 lbs.
" rosemary, 2 lbs.
Powdered cinnamon, 2 oz.
" nutmegs, 2 oz.
Red saunders, ¼ oz.

Infuse two weeks, and filter.

Infusion de Cochlearia.

Take

Cochlearia leaves, 5 lbs.
Fresh roots of horse-radish, 1 lb.
Alcohol, 3 pts.

Cut the root very fine, and infuse the whole.

To obtain the spirit of cochlearia, after a maceration of four to five days, distil over a water bath till 3 pints of liquid are obtained.

Infusion de Camomille.

Take—

Flowers, 1 lb.
Brandy, 3 qts.

Infusions of Absinthe, Sauge,

Are prepared as the above.

Infusion de Melisse.

Take—

Fresh leaves, 2 lbs.
Alcohol, 4 qts.

Infuse 15 days.

Infusion of Hyssop.

Is prepared as the above.

Infusion de Safran.

Take—

Saffron, 2 oz.
Alcohol, 1 qt.

Infuse 2 months.

Infusion de Rhodia.

Take—

Rhodim wood, 1 lb.
Spirit, 2 qts.

Infuse as before.

Infusion de Canelle.

Take—

Bruised cinnamon, 4 oz.
Spirit, 1 qt.

Infuse fourteen days.

Infusion de Sassafras.

Take—

Bruised sassafras, 8 oz.
Alcohol, 1 qt.

Infusion de Santal Citrin.

Operate as above.

Infusion de Benzoin.

Take—

Powdered benzoin, 2 oz.
Alcohol, 1 pt.

Infuse 7 days, and filter.

Infusion de Storax

Is prepared as that of benzoin.

Infusion of Peru Balsam.

Take—

Balsam Peru, 2 ounces.
Spirit, 1 qt.

Infusion d'Iris.

Take—

Florence orris root, 4 ounces.
Alcohol, 1 qt.

Infuse fifteen days, stirring from time to time.

Infusion d'Ambrette.

Take—

Bruised ambrette seeds, 3 lbs.
Spirit, 6 qts.

Infuse six weeks; filter.

Infusion de Fenugrec.

Take—

Bruised seeds, 4 oz.
Spirit, 1 qt.

Infuse one month.

Infusion de Vanille.

Cut the vanilla in pieces, as small as possible, and operate as above.

Infusion de Musc.

Rub up 1 ounce of musk in a heated mortar with ½ an ounce of crystallized sugar. Infuse the whole in 1 qt. of alcohol in a warm place. Filter.

Infusion d'Ambre.

Take ambergris, and proceed as above.

Esprit de Civette.

Rub up—

Civet, ½ ounce.
Amber, ¼ ounce.
Sugar, ¼ ounce.

Prepare the infusion as above for fourteen days.

Infusion de Chypre.

The bodies of powder can be used to prepare these infusions. Take 2 lbs. of poudre de chypre and infuse in 1½ gal. of alcohol for six weeks. Decant slowly, and filter.

Infusion de Maréchale.

Operate as the above.

Infusion de Frangipane.

Take—

Powder à la frangipane, 2 lbs.
Alcohol, 6 qts.

Infuse six weeks.

Infusion de Flore, de Bouquet.

Take of the powders *de flore* and *au bouquet*, and operate as the above.

CHAPTER LXII.

TINCTURES.

TINCTURES, like infusions, are alcohol saturated with odoriferous principles without distillation, but with this difference only, that a gentle heat is used because the substance will not dissolve in pure alcohol. Like the infusions, they must be kept in close vessels to prevent them losing their aromatic principle.

Teinture d'Ambre.

Take—

Gray amber, ½ ounce.
Alcohol at 85°, 1 quart.

Macerate 15 days at a temperature of about 83° in shaking from time to time, filter and keep in stopped bottles.

Another Process.

Take—

Gray amber, 1 ounce.
Sugar, ½ ounce.

Rub in a mortar as we shall explain for the musk. Add—

Tincture of civet or musk, 3½ oz.
Alcoholate of roses, 13¼ oz.

In which dissolve ½ an ounce of carbonate of potash. Put the whole in a bottle, leave to macerate one month and filter.

Teinture de Benzoin.

Take—

Powdered Benzoin, 4 ounces.
Alcohol at 85°, 1 qt.

Operate as for the amber.

Teinture de Musc.

Take—

Tonquin musk, 2 drms.
Alcohol at 85°, 1 qt.

Operate as above.

Another Process.

Take—

Tonquin musk, 1 ounce.
Alcohol at 90°, 1 pint.

Throw some boiling water into a marble mortar to heat it, put also the pestle in boiling water; dry those two instantly, and put immediately into the mortar the musk with ½ an ounce of sugar; powder carefully, add the alcohol by degrees, triturating all the time. When the tincture is free from grains, put it into a bottle and leave it two months. Filter and keep in ground stopped bottles.

Teinture de Musc Supérieure.

Take—

Tonquin musk, 1 ounce.
Tincture of amber, 1⅔ ounce.
" vanilla, 1⅔ ounce.
Rectified alcohol, 13½ ounces.

Infuse one month, filter two or three times if necessary, and add to the products a few drops of oil of roses.

Teinture de Storax.

Take—

Powdered storax, 4 ounces.
Alcohol at 85°, 1 qt.

Operate as above.

Teinture de Tolu.

Take—

Powdered balsam of Tolu, 4 oz.
Alcohol at 85°, 1 qt.

Operate as above.

Teinture de Vanille.

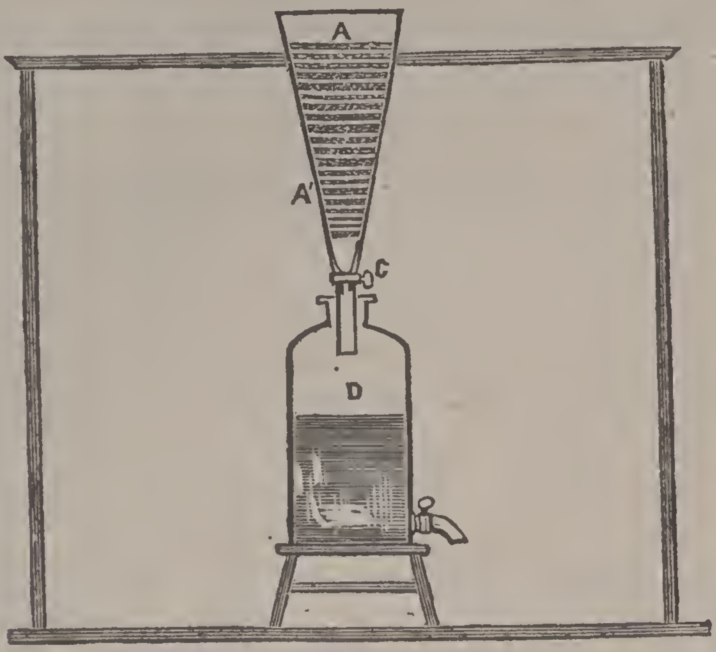
Take—

Vanilla, 3¾ lbs.
Alcohol at 85°, 3¾ gallons.

Cut the vanilla into small slices, throw them into the alcohol and macerate at a gentle heat.

Before going further, we shall describe an apparatus with which to prepare the extracts and alcoholic tinctures used in perfumery.

Fig. 29.



A A′. Conical vase in tinned copper having the form of a funnel, its capacity varies from 2 to 10 gals.

A A′. Plates in tinned copper, used as double bottom.

C. Copper cork to drain the perfumed liquid.

D. Glass bottle to collect the tincture or extract.

The coloring or aromatic matter is, according to its nature, reduced to pieces or powder, and placed in the empty space between the two plates A A′, which are pierced with holes like a skimmer. When the matter is very compact, it is better to mix it with pure white sand. The lower plate A′ is covered with cotton, which acts as a filter and causes the liquid to come off perfectly clear. The whole being ready, fix the upper plate A and pour the alcohol in sufficient quantity to have the whole entirely covered. After 12 hours, open the cork C and collect the extract in the bottle D. In loading the filter with a quantity of alcohol equal to that extracted, you obtain an extract No. 2.

Tinctures are generally prepared with 1 lb. of matter with a quart of alcohol, and infusions require only ½ lb. This apparatus enables the perfumer to obtain the most concentrated and the nicest products.

CHAPTER LXIII.

AROMATIC SPIRITS WITHOUT DISTILLATION.

Aromatic spirits without distillation are prepared by dissolving the essential oils in alcohol; it is a rapid method of obtaining perfumed alcohols, but they are not so sweet. We shall present here a few formulæ, but the quantity of the perfume will be varied according to the taste.

Esprit de Fleurs d'Oranger.

Take—

Alcohol at 85°, 25 qts.
Essence of neroli, from 3½ to 8 ounces.

Esprit de Menthe.

Take—

Alcohol at 85°, 25 qts.
Essence of peppermint, from 6 to 13 oz.

Esprit de Roses.

Take—

Alcohol at 85°, 25 qts.
Essence de rose, from 2 to 3½ oz.

Esprit de Jasmin.

Take—

Alcohol at 85°, 25 qts.
Extract of jasmin, from 1 to 2 lbs.

Esprit de Jonquille.

Take—

Alcohol at 85°, 25 qts.
Extract of jonquil, from 1 to 2 lbs.

Esprit d'Héliotrope.

Take—

Alcohol at 85°, 25 qts.
Extr. of heliotrope, from 19 to 40 oz.

Esprit de Réséda.

Take—

Alcohol at 85°, 25 qts.
Extract of réséda, from 19 to 40 oz.

Esprit de Tubéreuse.

Take—

Alcohol at 85°, 25 qts.
Extract of tuberose, from 1 to 2 lbs.

Esprit de Thym.

Take—

Alcohol at 85°, 25 qts.
Essence of thyme, from 1 to 2 lbs.

Prepare in the same way the spirits of serpolet, marjolaine, rosemary, hyssop, etc.

Esprit de Myrte.

Take—

Alcohol at 85°, 25 qts.
Essence of myrte, from 13 to 27 oz.

Esprit de Bergamote.

Take—

Alcohol at 85°, 25 qts.
Essence of bergamot, from 1 to 1½ lbs.

CHAPTER LXIV.

DISTILLED AROMATIC SPIRITS—EXTRACTS OF ODORS—SIMPLE AROMATIC SPIRITS.

THE name of aromatic alcohols or perfumed spirits or alcoholats, is given to alcohol saturated by distillation with the volatile principle of one or several odorifering substances.

All the odorifering substances, such as flowers, fruits, seeds, woods, barks, resins, gums, animal products soluble in alcohol, or those from which alcohol can take by distilling the odorifering principle, can be used in the preparation of aromatic spirits.

The preparation of aromatic spirits, principally those called simple, require some attention in the distillation. The rules are about the same as those prescribed in the preparation of essential oils, nevertheless we shall recall the principal ones.

1. Aromatic spirits can be prepared with all commercial alcohols, but the sweetest are those prepared with very pure alcohol at 85° and free from fusel oil.

2. The substance must be reduced to powder as fine as possible, which facilitates the action of alcohol.

3. Those substances must macerate at least twenty-four hours in alcohol before distilling, so that the solvent may have time to penetrate them.

4. During the time of the distillation, it is best to add of water one-half the volume of alcohol.

5. The distillation can be operated over a naked fire, or a water bath, or by steam.

6. You must distil carefully to avoid the burning of the substances.

7. The water of the refrigerator must be kept cold and running all the time.

8. The spirit must be rectified over a water bath by adding to it one-half of its volume of water, distilling about twenty-four or twenty-five per cent. of spirit that has been put to distillation. The products are sweeter.

9. Preserve it in well-corked bottles in a cool place.

10. Distil the residue to extract the alcohol and use the products for the preparation of common perfumery.

Extracts of Odors.

Extracts of odors are alcohol saturated with aromatic principles, not by distillation, but by a dissolution of the essential oils in alcohol, or by using alcohol to take up the greases or oils saturated by enfleurage of aromatic substances.

The extracts of odors are often prepared by dissolving directly the oils in alcohol at 92°; this method is simpler and quicker than the following, but is more expensive.

The most economical method consists in treating with alcohol at 95°, the oils or greases saturated with the perfume of flowers or other substances by enfleurage or other methods.

The preparations are 1 qt. of alcohol for 1 qt. of oil. The contact lasts forty-eight hours, shaking the mixture from time to time, decant the alcohol which furnishes the alcohol No. 1, *i.e.*, the richest in perfume. If you treat the oil anew with 1 qt. of alcohol you obtain the extract No. 2, etc. The grease is thus completely exhausted of all its perfume.

Simple Aromatic Spirits.

Simple aromatic spirits are prepared by infusing in alcohol for twenty-four to thirty-six hours the chosen substances and adding half as much of water as there is alcohol; taking one or two per cent. of the good product, rectifying with one-half water, extracting three to four per cent., distilling the residues to extract the alcohol.

Esprit d'Amandes Amères.

Take—

Alcohol at 85°, 25 qts.
Bitter almonds, 12½ lbs.

These quantities produce 25 quarts of saturated spirit after rectification containing 5 ounces of bitter almonds per quart.

Esprit de Benzoin.

Take—

Alcohol at 85°, 26 qts.
Benzoin, 3 lbs.

Produce 25 quarts, containing 2 ounces of benzoin per quart.

Esprit de Calamus Aromaticus.

Take—

Alcohol at 85°, 26 qts.
Calamus aromaticus, 6 lbs. 5 ounces.

Produce 25 quarts, containing 4 ounces of calamus per quart.

Esprit de Cannelle de Ceylan.

Take—

Alcohol at 85°, 25 qts.
Powdered canella, 1½ lbs.

Produce 25 quarts, containing 1 ounce canella per quart.

Esprit de Cedrats.

Take—

Alcohol at 85°, 25 qts.
Zestes of 125 fresh cedrats.

Add only 12 quarts of water to distil and rectify. Produce 20 quarts, containing 6 cedrats per quart.

Esprit de Citron.

Take—

Alcohol at 85°, 25 qts.
Zestes of 150 fresh lemons.

Operate as the above.

Esprit de Fleurs d'Oranger.

Take—

Alcohol at 85°, 26 qts.
Fresh orange flowers, 12½ lbs.

Produce 25 quarts, containing 8 ounces of flowers per quart.

Esprit de Girofle.

Take—

Alcohol at 85°, 25 qts.
Cloves, 3 lbs.

Produce 25 quarts, containing 2 ounces cloves per quart.

Esprit d'Hyssope.

Take—

Alcohol at 85°, 26 qts.
Fresh hyssope, 12½ lbs.

Produce 25 quarts, containing 8 ounces each.

Esprit de Lavande.

Take—

Alcohol at 85°, 26 qts.
Dry lavender flowers, 6¼ lbs.

Produce 50 quarts, containing 4 ounces each.

Esprit de Melisse.

Take—

Alcohol at 85°, 26 qts.
Dry melisse, 12½ lbs.

Produce 25 quarts, containing 8 ounces each

Esprit de Menthe.

Take—

Alcohol at 85°, 26 qts.
Dry mint, 12½ lbs.

Produce 25 quarts, containing 8 ounces each.

Esprit de Myrrhe.

Take—

Alcohol at 85°, 26 qts.
Powdered myrrh, 3 lbs.

Produce 25 quarts, containing 2 ounces each.

Esprit d'Orange.

Take—

Alcohol at 85°, 25 qts.
Zestes of 220 fresh oranges.

Produces 20 quarts, containing 10 oranges each.

Esprit d'Œillet.

Take—

Alcohol at 85°, 26 qts.
Pink flowers, 12½ lbs.

Produces 25 quarts, containing 8 ounces each.

Esprit de Bois de Roses.

Take—

Alcohol at 85°, 26 qts.
Root of rhodia wood, 3 lbs.

Produce 25 quarts, containing 2 ounces each.

Esprit de Roses.

Take—

Alcohol at 85°, 26 qts.
Fresh rose leaves, 13 lbs.

Produce 25 quarts, containing ½ lb. each.

Esprit de Safran.

Take—

Alcohol at 85°, 25 qts.
Saffron, 1½ lb.

Produce 25 quarts, containing 1 ounce each.

Esprit de Santal.

Take—

Alcohol at 85°, 26 qts.
Sandal wood, 3 lbs.

Produce 25 quarts, containing 2 ounces each.

Esprit de Sassafras.

Take—

Alcohol at 85°, 26 qts.
Sassafras wood, 3 lbs.

Produce 25 quarts, containing 2 ounces each.

Esprit de Baume de Tolu.

Take—

Alcohol at 85°, 26 qts.
Powdered balsam of Tolu, 3 lbs.

Produce 25 quarts, containing 2 ounces each.

Esprit de Roses.

Take—

Alcohol at 85°, 60 qts.
Essence of roses, 8 ounces.
" geranium, 3½ ounces.

Infuse one month.

Esprit de Portugal.

Take—

Alcohol at 85°, 15 qts.
Essence of Portugal, 2½ lbs.

Infuse 60 days at a gentle heat.

Esprit de Menthe.

Take—

Alcohol at 90°, 40 qts.
Essence of peppermint, 2½ lbs.

Infuse 30 days.

CHAPTER LXV.

MISCELLANEOUS WATERS.

Eau Athenienne, No. 5.

Take—

Alcohol at 90°, 32 qts.
Extract of miel d'angleterre, 4½ qts.
Infusion of ambrette, 6 qts.
Rose water, 4 qts.
Ordinary water, 4 qts.

Eau Athenienne.

Take—

Alcohol at 85°, 3 qts.
Benzoin, 1 ounce.
Incense, 1 ounce.
Gum Arabic, 1 ounce.

Dissolve in alcohol, and add—

Clove, ½ ounce.
Nutmeg, ½ ounce.
Barbadoes nut, 1½ ounce.
Sweet almonds, 1½ ounce.
Amber, 2½ drs.
Musk, 2½ drs.

Powder the whole, infuse three days, and finally add—

Rose water, 17 ounces.

Distil, to obtain three quarts.

Eau Athenienne à la Violette.

Take—

Alcohol at 90°, 4 qts.
Spirit of violet, 6 qts.
Rose water, 2 qts.

Imitation of Eau Athenienne au Rhum or Cinchona.

Take—

Alcohol at 90°, 30 qts.
Extract miel d'angleterre, 2½ qts.
" essence bouquet, 1 qt.
Rose water, 10 qts.

Eau Athenienne au Portugal, No. 5.

Take—

Alcohol at 90°, 15 qts.
Essence Portugal, 2½ lbs.
" bergamot, 1 lb.
" lemon, 13 ounces.

Eau de Fleurs de Cedrat.

Take—

Alcohol at 90°, 50 qts.
Essence of bergamot, 4 lbs.
" Portugal, 2 lbs.
Infusion of Tolu, 2 lbs.

Eau de Chypre.

Mix—

Water of jasmin, 1 qt.
" bergamot, 1 qt.
" violet, 1 qt.
" tuberose, 1 qt.
Spirit of ambrette, ½ qt.
Balsam of Judea, 1 ounce.
" storax, ¼ ounce.
Essence of musk, 1 ounce.

Pour into the mixture two ounces of simple rose water Mix well.

Eau Hygiénique Spiritueuse for the Skin.

Take—

Extract essence of bouquet, 10 qts.
River water, 3½ qts.
Camphor wood, 2 lbs.

Infuse twenty-four hours in a still, at a gentle heat; distil to obtain ten quarts of good product.

Fainty Water for the Toilet.

Take—

Rose leaves, 13½ oz.
Flowers of tuberose, 7 oz.
" jasmin, 7 oz.
" orange, 7 oz.
Camphor wood, 1 lb.
Water, 6 qts.

Put the water into an alembic, raise the temperature near to the boiling point; throw the whole into it, and introduce—

Essence of neroli, 1 dr.
Jamaica rum, 2½ ounces.

Cover the still; leave twenty-four hours and distil, to obtain four quarts of good product. To this product, add one dr. of liquid ammonia; shake, and keep in well-closed bottles.

Florida Water.

Take—

Alcohol at 90°, 50 qts.
Essence lemon, 4 ounces.
" Portugal, 4 ounces.
" lavender, 8 ounces.
" clove, 8 ounces.
" canella, ½ ounce.
Water, 20 qts.

Eau de Laïs de Corynthe.

Take—

Eau de Cologne, extra forte, 3⅓ oz.
" spiritueuse of jasmin, 1⅝ oz.
" tuberose, 1⅝ oz.
" nardus indica, 1⅝ oz.
" cyperus longus odoratus, 1⅝ oz.
" calamus aromaticus, 1⅝ oz.
" melisse, 1⅝ oz.
" lemon, 1⅝ oz.
Tincture of benzoin, 1 oz.
" vanilla, 1 oz.
" musk amber, ½ oz.

Eau de Millefleurs.

Take—

Spirit, 18 qts.
Balsam of Peru, 4 ounces.
Essence of bergamot, 8 ounces.
“ clove, 8 ounces.
“ neroli, 1 ounce.
“ thyme, 1 ounce.
“ musk, 2 ounces.
Water of orange flower, ½ ounce.

Eau de Mousseline.

Take—

Spirit of rose, 3d operation (from the extract of oil), 2 qts.
“ jasmin, 4th operation, 2 qts.
“ pink, 1 qt.
“ orange flower, 4th operation, 2 qts.
Essence of vanilla, 3d infusion, 2 ounces.
“ musk, “ 2 ounces.
“ sandal, ½ ounce.
Water of orange flower, 1 qt.

Eau de Miel Odorante.

Take—

Honey, 1 lb.
Coriander, 1 lb.
Fresh zeste of lemon, 1 ounce.
Clove, 6 drs.
Nutmeg, 1 ounce.
Benzoin, 1 ounce.
Storax, 1 ounce.

Rose water, 4 ounces.
Orange flower water, 4 ounces.
Alcohol at 90°, 3 lbs.

Mix together; digest a few days, pass, and filter.

Eau de Miel Printannière.

Take—

Pale roses, 3 lbs.
Orange flowers, 4 ounces.
Peel of 2 lemons,
Amber and musk, of each, 2 drs.

Pulverize the whole, and add—

Coriander, 4 ounces.
Cloves, ½ ounce.
Vanilla in small pieces, 4 ounces.
Ambrette, 8 ounces.

Pulverize this second mixture with the first, adding to it 1½ lb. of honey. Put the whole into 12 quarts of alcohol at 85°. Wash the mortar and pestle with 1 quart of rose water, which add to the composition, and leave it to infuse three days; distil over a water-bath.

Eau de Musc des Indes.

Mix—

Rectified spirit, 2 qts.
Spirit of ambrette, 1 qt.
Balsam of Tolu, 2 ounces.
Tincture of vanilla, 1 ounce.
Essence of musk, 1 ounce.
" amber, 2 drs.
Rose water, q. s.

Eau de Myrte.

Take—

Essence of myrtle, 2 oz.
Alcohol at 85°, 24 ounces.
Distilled water of flowers and leaves of myrtle, 8 ounces.
Orange flower water, 4 ounces.
Rose water; 4 ounces.

The two ounces of oil, the alcohol, and the distilled water of myrtle are exposed to a gentle heat for fifteen days, after which add the four ounces of orange flower water, and the rose water; shake, and expose to a gentle heat for fifteen days, stirring from time to time. Filter, and keep in well-closed bottles.

Eau Printannière for the Toilet.

Take—

Vervain water, 2 qts.
Alcohol at 85°, 2 qts.

Eau Romaine.

Take—

Jasmin water, 3 qts.
Vanilla water, 1 qt.
Cassia water, 1 qt.
Tuberose water, ½ qt.
Essence of amber, 2 ounces.
Tincture of benzoin, 8 ounces.

Eau des Sultanes.

Take—

Tincture of balsam of Tolu, 4 ounces.
“ “ Peru, 4 ounces.
“ “ benzoin, 4 ounces.
“ “ styrax, 4 ounces.
“ vanilla, 4 ounces.
Rectified alcohol, 2 qts.

Shake, and then add—

Tincture of amber and musk, 6 drs.
Spirituous water of jonquil, 1 qt.
“ hyacinth, 1 qt.
“ réséda, 1 qt.

Riche Eau de Toilette.

Take—

Alcohol at 85°, 28 qts.
Infusion of benzoin, ¼ qt.
Essence of bergamot, 13½ ounces.
“ lemon, 10 ounces.
“ roses, 5 drs.
“ lavender, 1 ounce.
Rose water, 2 qts.

Riche Eau de Toilette du Benzoin.

Take—

Riche eau de toilette, 1 qt.
Infusion of benzoin, ¼ qt.
Alcohol at 90°, ½ qt.
Rose water, ¼ qt.

Eau de Toilette Impératrice.

Take—

Spirit of roses, 8 qts.
Extract of orange, 8 qts.
Infusion of ambrette, 4 qts.
“ musk, 2 qts.
“ vanilla, 2 qts.
“ cloves, 2 qts.
Extract of lavender, 4 qts.
“ mousseline, 2 qts.
White lavender, 4 qts.
Essence bergamot, 8 ounces.
“ sandal, 2 ounces.
“ geranium, 2 ounces.
“ rose, ½ ounce.
Infusion balsam of Peru, 2 ounces.
“ styrax, 4 ounces.
Essence citronella, 1¼ dr.
Rose water, 4 qts.

Eau de Toilette Impériale.

Take—

Alcohol at 90°, 6 qts.
Spirit of rose, 6 qts.
Extract of lavender, 2 qts.
Infusion of Tolu, 1 qt.
“ sandal, 2 qts.
“ orris, 2 qts.
“ ambrette, 2 qts.
“ clove, 1 qt.
Extract miel d’angleterre, 2 qts.
Essence bergamot, 1 lb.
“ geranium, 1 ounce.
Rose water, 1 qt.

Eau de Toilette aux Violettes de Parmée.

Take—

Extract of violet, 8 qts.
“ cassia, 4 qts.
“ rose, 2 qts.
“ jasmin, 1 qt.
Infusion of orris, 1 qt.
Essence geranium, 2½ drs.
Infusion musk, 1 oz.

Eau Universelle de Toilette.

Take—

Alcohol at 90°, 85 qts.
Essence bergamot, 3 lbs.
“ clove, 6⅔ ounces.
“ geranium, 14 ounces.
“ lemon, 8 ounces.
“ lavender, 5 ounces.
“ canella, 1⅔ ounce.
“ citronella, 1 ounce.
Infusion of benzoin, 2 qts.
“ sandal, 5 qts.
Orange leaves water, 10 qts.

Eau de Toilette des Princes.

Take—

Essential oil of lemon, 3 ounces.
“ cedrat, 3 ounces.
“ rosemary, 1½ ounce.
“ peppermint, 3 drs.
Tincture of benzoin, 3 ounces.
“ balsam of Tolu, 3 ounces.

Alcoholat of orange peel, 3 lbs.
" composed melisse, 2 lbs.
Alcohol at 85°, 24 lbs.

This preparation requires much care, and you must begin—

1st. To dissolve the oils in alcohol.

2d. Add the tincture of benzoin and balsam of Tolu.

3d. Putting in at last the two alcoholats. When the mixture is ready, leave the whole together for eight days. Distil over a water-bath till reduced to a fifth. Color red or yellow.

Eau or Extract de Vanille.

Take—

Tincture of vanille, 2 lbs.
" balsam of Tolu, 8 ounces.
" amber and musk, 2 ounces.
Rose water, 8 ounces.

Eau de Verveine.

Take—

Alcohol at 90°, 100 qts.
Essence of lemon, 12 lbs.
" vervain, 2 lbs.
Infusion of benzoin, 1 qt.

CHAPTER LXVI.

EAUX DE COLOGNE.

The *eau de Cologne* is one of the most important products of the perfumery. The best alcohol to be used is the spirit of wine, perfectly rectified. For the oils, the best ought to be used, as their perfume is the most developed.

Eau de Cologne de J. M. Farina.

Take—

Alcohol at 85°, 100 qts.
Essence of bergamot, 12½ lbs.
“ lemon, 6 lbs. 3 ounces.
“ neroli, 26½ ounces.
“ clove, 3 lbs. 3 ounces.
“ lavender, 2 lbs. 5 ounces.
“ rosemary, 26½ ounces.

Macerate thirty days, and filter.

Eau de Cologne du Codex.

Take—

Essence of bergamot, 2 ounces.
“ lemon, 2 ounces.
“ limette, 2 ounces.
“ orange, 1 ounce.
“ petit grain, 1 ounce.
“ cedrat, 1 ounce.
“ rosemary, 1 ounce.
“ lavender, ½ ounce.

Essence of orange flowers, ½ ounce.
" canella, 3 drs.
Spirit of rosemary, 8 ounces.
Melisse water composed, 3 lbs.
Alcohol at 90°, 12 lbs.

Distil over a water-bath till nearly dried, and add—

Bouquet water, 1 lb.

Eau de Cologne de Mr. Durochereau.

Take—

Pure spirit, 7 qts.
Essence of Portugal, 10½ drs.
" bergamot, 12½ drs.
" lemon, 1 ounce.
" neroli, fine, 10 drs.
" " petit grain, 11½ drs.
" rosemary, 1 ounce.
" lavender, 1 ounce.
Rose water, 13½ drs.
Jasmin water, 12½ drs.
Orange flower water, 14½ drs.

Mix the whole, filter twice through two papers, and leave it to rest twenty-four hours. Distil the whole twice, and leave it ten months in bottles, before using it.

Eau de Cologne de MM. Laugier.

Take 70 quarts of alcohol, which rectify several times, in 80 lbs. bark of cinnamon. You produce 36 quarts of spirit or alcohol of bergamot.

Take 70 quarts of alcohol, which equally rectify several times, as above, with 80 lbs. of lemon peel, produce 35 pints of alcohol of lemon.

30 quarts of alcohol with 40 lbs. of orange peel.

36 quarts of alcohol with 150 lbs. fresh leaves of rosemary, produce 10 quarts of alcohol of rosemary.

30 quarts of alcohol with 150 lbs. of fresh orange leaves give 10 quarts of alcohol of orange flower; for the composition use only 5 quarts.

All these quantities together form 100 quarts of eau de Cologne.

Eau de Cologne de M. Marie.

Take—

Alcohol at 85°, 30 qts.
Water, 15 qts.
Essence of bergamot, 12½ ounces.
" cedrat, 2 ounces.
" lemon, 2 ounces.
" Portugal, 2 ounces.
" neroli, 2 ounces.
" rosemary, ½ ounce.
" clove, 2 drs.
Tincture of benzoin, 4 ounces.
Holy thistle, 1 ounce.
Citronella, 1 ounce.
Herb of peppermint, 2 ounces.
" melisse, 2 ounces.
" rosemary, 1 ounce.
" angelica, 3 ounces.
Mace, 2 drs.
Badiane, 8 ounces.
Canella, 2 drs.

Infuse the whole two days, distil, and extract 35 quarts of eau de Cologne.

Eau de Cologne de M. Vourloud.

Take—

Essential oil of lemon.
" bergamot.
" cedrat.
" Portugal.
" neroli.
" rosemary.
" lavender.
" clove.
Distilled water of melisse.

Eau de Cologne Rectifiée.

Take—

New lavender flowers, 4 oz.
Absinth tops, 2 oz.
Hyssop tops, 1½ oz.
Marjolaine tops, 2 oz.
Anis seeds, 1½ oz.
Juniper berries, 1 oz.
Carvi seeds, 1¼ oz.
Fennel seeds, 1 oz.
Cumin seeds, 1¼ oz.
Cardamon seeds, 2¼ ounces.
Canella, 2 ounces.
Nutmeg, 2 ounces.
Clove, 1 ounce.
Serpolet tops, 2 ounces.
Dry angelica root, 4 ounces.

Give to every substance the proper preparation, put the whole on a water-bath, and pour on—

Rectified spirit of wine, 19 qts.

Leave it to infuse forty-eight hours; distil over a water-bath.

This liquor obtained, add to it the following essential oils—

Composed melisse water, 3 lbs.
Spirit of rosemary, 8 lbs.
Neroli, 6 drs.
Essence of lemon, 1 ounce.
“ cedrat, 1 ounce.
“ bergamot, 10 ounces.

The whole being mixed, rectified over a water-bath at a gentle heat.

Eau de Cologne de Mme. Crozet.

Take—

Essence of Portugal, 1½ ounce.
“ bergamot, 1½ ounce.
“ cedrat, 1 ounce.
“ lemon, 1 ounce.
“ neroli, 1½ ounce.
“ “ petit grain, 1 ounce.
“ rosemary, 2 ounces.
“ lavender, 2 ounces.
“ benzoin.

Infuse the whole in a quart of rectified spirit of wine for two weeks, shaking the mixture four times a day. Distil twice, and the result is one quart of concentrated eau de Cologne, with which you can make a very good eau de Cologne, by adding to it ten times its volume of spirit of wine.

Eau de Cologne Supérieure.

Take—

Rectified alcohol, 3 lbs.
Alcoholat of melisse, 3⅓ ounces.
Essence of lemon, 6 drs.
“ cedrat, 2½ drs.
“ bergamot, 5 drs.
“ lavender, 1¼ dr.
Tincture of benzoin, 10 drs.

Mix and shake, and after a contact of a few hours, filter. Twenty-four hours before using it, add 1¼ dr. of tincture of amber.

Another Formula.

Take—

Rectified alcohol, 3 lbs.
Alcoholat of melisse, 1 lb.
Tincture of ambrette, 8 ounces.
Essence of lemon, 12½ drs.
“ cedrat, 2½ drs.
“ bergamot, 2½ drs.
“ lavender, 5 drs.
“ Portugal, 2 drs.
“ rosemary, 1¼ dr.
“ white thyme, 1¼ dr.
“ peppermint, 2½ drs.
“ vervain, 1¼ dr.
“ bigarade, 1¼ dr.

Infuse six hours, and add—

Tincture of amber, 2½ drs.

Eau de Cologne extra fine, and extra strong.

Take—

Alcohol at 90°, 10 qts.
Essence cedrat, 2 oz.
" bergamot, 2 oz.
" neroli, 2½ drs.
" lavender, ½ oz.
" rosemary, ½ oz.
" canella, 2 drs.
" clove, 2 drs.
Infusion of musked amber, 3 drs.
" benzoin, 2 ounces.

Another Formula.

Take—

Alcohol at 90°, 900 qts.
Essence of lemon, 24 lbs.
" bergamot, 24 lbs.
" Portugal, 10 lbs.
" neroli, 3 lbs.
" petit grain, 2 lbs. 13 oz.
" rosemary, 2½ lbs.
" lavender, 2 lbs.
" clove, 2 lbs.

Eau de Cologne, Triple.

Take—

Essence cedrat, 4½ drs.
" bergamot, 3 drs.
" lemon, 3 drs.
" neroli, 1 dr.

Essence Portugal, 2 drs.
" vervain, 1 dr.
" peppermint, 1¼ dr.
" rosemary, 1 dr.
" thyme, 1 dr.
Rectified alcohol, 16 ounces.
Alcoholat of melisse, 16 ounces.
Tincture of musk, 12 drops.

Eau de Cologne Duchesse.

Take—

Eau de Cologne extra forte, 6 qts.
" No. 24, 6 qts.

Eau de Cologne No. 12.

Take—

Alcohol at 90°, 40 qts.
Essence bergamot, 8 ounces.
" lemon, 8 ounces.
" Portugal, 4 ounces.
" rosemary, 6⅔ ounces.
" lavender, 3½ ounces.
" canella, ½ ounce.
" clove, ½ ounce.
Orange flower water, 15 qts.

Eau de Cologne No. 18.

Take—

Alcohol at 90°, 900 qts.
Essence of lemon, 12 lbs.
" bergamot, 10 lbs.
" Portugal, 8 lbs.

Essence of petit grain, 2½ lbs.
" lavender, 2½ lbs.
" rosemary, 2½ lbs.
" clove, 1 lb.
Infusion of benzoin, 2 qts.
Orange leaves water, 90 qts.

Eau de Cologne No. 24.

Take—

Alcohol at 90°, 900 qts.
Essence of lemon, 24 lbs.
" bergamot, 20 lbs.
" Portugal, 14 lbs.
" neroli, 3 lbs.
" petit grain, 2 lbs. 13 ounces.
" rosemary, 2 lbs. 8 ounces.
" lavender, 2 lbs.
" clove, 2 lbs.
Infusion of benzoin, 2 qts.
Orange leaves water, 60 qts.

Eau de Cologne No. 50.

Take—

Alcohol at 90°, 60 qts.
Essence of rosemary, 10 oz.
" lavender, 6⅔ oz.
" Portugal, 13½ oz.
Water, 40 qts.

Eau de Cologne, extra fine of Mr. A. Lormé.

Take—

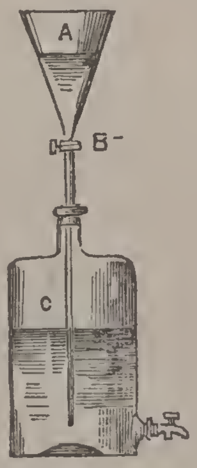
Alcohol at 85°, 10 qts.

Dissolve in—

Essence of neroli petit grain, 6 drs.
" rosemary, 5 drs.
" lavender, 1¼ dr.
" clove, ½ dr.
" peppermint, ¼ dr.
" bergamot, 12½ drs.
" lemon, 5 ounces.
" Portugal, 3⅓ ounces.
" vervain, 6 drs.
Tincture of musk, ½ dr.

Put the whole into a large bottle of twelve quarts capacity; shake well, three or four times a day, and after four days filter through paper, as in the following apparatus.

Fig. 30.



If the product is not clear, filter a second time, keeping in the bottom of the filter a little powdered chalk.

Eau de Cologne Fine.

Take—

Alcohol at 85°, 10 qts.

Dissolve in it—

Essence of neroli petit grain, ½ oz.
" rosemary, 2½ drs.
" lavender, 1¼ dr.
" clove, ½ dr.
" peppermint, ½ dr.
" bergamot, 12½ drs.
" lemon, 12½ drs.
" Portugal, 7½ drs.
Tincture of benzoin, 1¼ dr.

Eau de Cologne Ordinaire.

Take—

Alcohol at 85°, 10 qts.
Essence of neroli, 1¼ dr.
" rosemary, 10 drs.
" lavender, 5 drs.
" thyme, ½ dr.
" clove, ½ dr.
" lemon, 2 ounces.
" peppermint, ¼ dr.
Tincture of benzoin, 1¼ dr.
Rose water, 2 lbs.

Eau de Cologne Economique.

Take—

Alcohol at 85°, 10 qts.
Essence of lemon, 5 ounces.
" cedrat, 12½ drs.
" bergamot, 4 ounces.
" lavender, 1 ounce.
Tincture of benzoin, 1 ounce.

Another Receipt.

Take—

Alcohol at 85°, 10 qts.
Essence of lemon and bergamot, 20 drs.
" cedrat, 10 drs.
" lavender, 2½ drs.
" neroli, 1¼ dr.
Tincture of benzoin, 15 drs.

Another Receipt.

Take—

Alcohol at 85°, 10 qts.

Dissolve in it—

Benzoin in powder, 25 drs.
Essence of cardamon, 15 drs.

Add, after forty-eight hours—

Animal charcoal, 5 ounces.

Filter, and dissolve in the filtrate the following:—

Essence of bergamot, 2 ounces.
" rosemary, 1 ounce.
" lemon, 20 drs.
" orange, 8½ drs.
" neroli, ½ dr.
" lavender, 8½ drs.
" anis, ¼ dr.
" clove, ½ dr.

Filter after twenty-four hours.

The eau de Cologne by growing old, loses some of its perfume; this weakening can be prevented with a little extract of geranium. The new water of J. M. Farina is thus compounded:—

Benzoin dissolved in alcohol, 4 oz.
Essence of lavender, 8 oz.
" rosemary, 4 oz.
Alcohol at 75°, 325 qts.

To this solution add successively—

Neroli, 21 oz.
Petit grain, 21 oz.
Cedrat, 21 oz.
Portugal, 2½ lbs.
Lemon, 2½ lbs.
Alcoholic extract of geranium, 2½ lbs.

Shake several times; leave fourteen days, and bottle.

CHAPTER LXVII.

ESSENCES.

Essences de Santal, St. Luce, etc.,

Are obtained by the same process indicated for the guaiacum wood, and are rendered sweet by the addition of the proper perfume.

Essence de Vitivert.

Take 1 pound of vitivert, cut it into very small pieces, water it just enough to dampen it, cover the whole, leave twenty-four hours, and rub well in a mortar. When the root is well bruised, cover it with alcohol at 35 or 40°, and leave to macerate eight or ten days. Press and filter. Fifteen days after, filter again.

Essence Double de Vitivert.

Cut the root, cover it with water acidulated by sulphuric acid, 2 ounces of acid to one pint of water; macerate eight days. Destroy the acid by chalk, add alcohol. Leave it to macerate fifteen days, and distil the whole.

Essence de Musc.

Take—

Musk, cut into small pieces, 5 ounces.
Civet, 1 ounce.
Spirit of ambrette, 4 qts.

Put the whole into a glass jar, and expose to the sun for two months in summer, or in a water-bath in winter.

Essence de la Vallière.

Take—

Orange flowers, 12½ ounces.
Roses, 16 ounces.
Canella, 6 drs.
Cloves, 2 drs.

Put the whole into a still with 12 quarts of water. Distil 6 quarts of liquor. Add—

Spirit of jasmine, 6 qts.

Color red, filter, and bottle.

To render this essence more agreeable, add after filtration—

Essence of limette, 2 drs.
" Portugal, 2 drs.

Essence d'Ambre.

Take—

Gray amber, 4 ounces.
Musk, 2 ounces.
Spirit of ambrette, 4 qts.

Essence de Vanille.

Take and cut into small pieces—

Vanilla first quality, 3 lbs.
Spirit of ambrette, 4 qts.
Cloves, 2 drs.
Canella, 4 drs.
Musk, ½ dr.

Expose this mixture to the sun in summer, or in a water-bath in winter. Filter, and bottle.

Essence d'Italie.

Take—

Powdered canella, 6 ounces.
" cardamon, 4 ounces.
" galanga, 4 ounces.
" cloves, 1 ounce.
Ginger, 1 ounce.
Black pepper, 6 drs.
Powdered nutmeg, ½ ounce.
" musk, 7 grains.
Gray amber, 7 grains.
Alcohol at 90°, 4 lbs.

Pass, express, and filter after a maceration of fifteen days.

Essence Royale.

Take—

Gray amber, 1 dr.
Musk, ½ dr.
Civet, 12 grains.
Oil of canella, 7 grains.
" rhodium wood, 5 grs.
" orange flower, 5 grains.
" rose, 5 grains.

After triturating the amber, civet, and musk, with carbonate of potash, put the compound into a bottle containing 1 pint of alcohol and the oils. Filter after a maceration of two weeks.

Essence Royale for the Handkerchief.

Take—

Gray amber, 6 drs.
Musk, 3 drs.
Civet, 1¼ dr.
Essence of rose, ½ dr.
Canella, ½ dr.
Rhodium wood, ½ dr.
Orange flowers, ¾ dr.
Carbonate of potash, 1½ dr.
Rectified alcohol, 1 lb. 12 oz.

Operate as with the above.

Essence de Gaultheria Procumbens.

Take—

Spirit of roses, 1 pint.
Essence of lavender, 4 ounces.
Extract of neroli, 8 ounces.
" vanilla, 4 ounces.
" vitivert, 4 ounces.
" cassia, 8 ounces.
" gray amber, 4 ounces.

CHAPTER LXVIII.

COMPOUND EXTRACTS.

Extract Acacia.

Take—

Extract orange, 4 qts.
" tuberose, 2 qts.
Infusion styrax, 2 ounces.
" Tolu, 2 ounces.
Essence of bergamot, ½ ounce.
" neroli, ½ ounce.
" geranium, 1¼ dr.

Extrait Ambre or Eau Ambrée.

Take—

Alcohol at 90°, 1 qt.
Spirit of ambrette, 1 qt.
Tincture of amber, 1 ounce.
" musk, ½ ounce.
Orange flower water, 8 ounces.

Eau d'Aspasie.

Take—

Extract of jasmin, 8 ounces.
" jonquil, 8 ounces.
" orange flowers, 8 ounces.
" violet, 8 ounces.
Extract of tuberose, 8 ounces.
Tincture of Peru, ½ ounce.
Balsam of Tolu, ½ ounce.
Tincture of musk, 2 drs.
" amber, 2 drs.

Extrait d'Ambroisie Supérieur.

Take—

Infusion of composed ambroisie, 6 qts.
Extract of orange, 3 qts.
" rose, 2 qts.
" jasmine, 1 qt.

Extrait d'Ambre.

Take—

Alcohol at 85°, 1 qt.
Tincture of ambrette, 1 lb.
" amber, 12½ drs.
" Tolu, 2½ drs.
" vanilla, 3 drs.

Shake, and allow it to stand two days, when filter.

Extrait d'Aubepine.

Take—

Extract of violet, 4 qts.
" orange, 4 qts.

Extract of cassia, 2 qts.
" jasmin, 2 qts.
" rose, 2 qts.
Infusion of tonka, 1 qt.
" vanilla, 4 ounces.
" Tolu, 4 ounces.
" musk, 2 ounces.

Extrait Ordinaire de Bergamotte.

Take—

Spirit, 2 qts.
Essence of bergamot, 8 ounces.

Extrait de Bouquet.

Take—

Spirit of jasmine (1st operation), 2 qts.
Extract of violet, 2 qts.
Spirit of cassia (1st operation), 1 qt.
" rose (1st operation, 1 qt.
" orange (1st operation), 1 qt.
Extract of pink, 1 qt.
Flowers of benzoin, ½ ounce.
Essence of amber (1st infusion), 8 ounces.

Extrait de Bouquet Supérieur.

Take—

Essence of clove, ½ dr.
Tincture of clove, 2 drs.
Essence of bergamot, 2 drs.
" thyme, ¼ dr.
Alcohol at 36°, 1 qt.

Dissolve the essences in alcohol, and add—

Extract of jasmine, 8 ounces.
“ rose, 4 ounces.
“ jonquil, 4 ounces.
“ violet, 4 ounces.
“ tuberose, 4 ounces.
“ réséda, 4 ounces.
“ orange flowers, 4 ounces.
“ cassia, 4 ounces.

Shake, then add—

Tincture of musked amber, 2 drs.
“ vanillated benzoin, 2 drs.

Macerate eight days, and filter.

Extrait Essence Bouquet.

Take—

Extract of jasmin, No. 6, 8½ qts.
“ “ No. 14, 7 qts.
Tuberose, No. 6, 6½ qts.
Rose, No. 1, 7 qts.
“ No. 14, 4½ qts.
Orange, No. 14, 4½ qts.
Cassia, No. 6, 3 qts.
Lavender, 3½ qts.
Infusion of orris, 9 qts.
“ vanilla, 1st, 1 qt.
“ “ 2d, 2 qts.
“ vanillon, 1st, 1 qt.
“ Tolu, 1 qt.
Essence of Portugal, 15 ounces.
“ bergamot, 2¼ lbs.
“ rose, 5½ ounces.
“ geranium, 5½ ounces.
“ citronella, 6 drs.

Extrait Bouquet Caroline for Exportation.

Take—

Spirit of rose, 2 qts.
Alcohol at 90°, 10 qts.
Infusion of vanilla, 2 ounces.
Essence of bergamot, 8 ounces.
Infusion of benzoin, 4 ounces.
Rose water, 2 qts.
Essence of clove, ½ ounce.
Water, 2 qts.

Extrait de Bouquet Chantilly.

Take—

Spirit at 90°, 7 qts.
" of rose, 5 qts.
Extract of orange flowers, 3 qts.
Infusion of vanilla, 1 qt.
Essence of bergamot, 10 ounces.
" geranium, 1 ounce.
" bitter almonds, ½ ounce.

After eight days of infusion, add 1 pint of water.

Extrait Bouquet des Dames.

Take—

Spirit at 90°, 4 qts.
Extract of orange, 4 qts.
Spirit of rose, 2 qts.
Water of vervain, 2 qts.
Eau de Cologne, extra forte, 2 qts.
Extract of miel, 1 qt.
Infusion of vanilla, 1 qt.
White lavender, 1 qt.
Rose water, ½ qt.

Extrait Bouquet de l'Impératrice.

Take—

Extract of miel, 1 qt.
Infusion of chypre, 1 qt.
Extract of mousseline, ½ qt.
" Marie Anna, 1 qt.
" essence bouquet, ½ qt.
" delice des boudoires, 1 qt.
" nard celtique, ¼ qt.

Extrait Bouquet Victoria.

Take—

Extract of jasmin, 2 qts.
" orange, 2 qts.
" tuberose, 2 qts.
Rectified spirit, 6 qts.
White lavender, 3 qts.
Infusion of vanilla, 1 qt.
Essence of rose, 2½ drs.
" bergamot, 8 ounces.

Extrait Caroline Supérieur.

Take—

Essence of roses, 2½ drs.
" clove, 1¼ dr.
" carvi, 2½ drs.
" rhodia, ¾ dr.
Infusion of musk, 2½ drs.
Essence of bergamot, 8 ounces.
Infusion of civet, ¾ dr.
" amber, 2½ drs.
" Tolu, 8 ounces.
" tonka, 8 ounces.

Extract essence bouquet, 2 qts.
" cedrat, 8 ounces.
Extract of jasmin, 3 qts.
" tuberose, 3 qts.
" orange, 3 qts.
Rectified spirit, 1 qt.

Extrait Chevrefeuille.

Take—

Infusion of orris, 3 pts.
Extract of jasmin, 5 qts.
" tuberose, 2 qts.
" orange, 2 qts.
Infusion of vanilla, 8 ounces.
" styrax, 2 ounces.
" balsam of Tolu, 2 ounces.

Extrait de Chypre Supérieur.

Take—

Infusion of chypre, 4 qts.
" maréchal, 2 qts.
Extract of tuberose, 2 qts.
" orange, 1 qt.
" jasmin, 1 qt.
" rose, 1 qt.

Extrait Common.

Take—

Spirit at 90°, 16 qts.
Essence of geranium, 3½ ounces.
" clove, 6½ ounces.
" lavender, 3½ ounces.

Essence of carvi, 3½ ounces.
" rosemary, 1⅔ ounce.
" aspic, 1⅔ ounce.
" citronella, 1 ounce.
" marjolaine, ½ ounce.
Orange leaves water, 4 qts.

Extrait Common d'Œillet.

Take

Infusion of clove, 2½ qts.
" powder at 85°, 1 qt.
" benzoin, ½ qt.
" lavender, ½ qt.
Spirit at 90°, 9 qts.
Infusion of tonka, 1 qt.
Essence of citron, 4 ounces.
" bergamot, 4 ounces.
" geranium, ½ ounce.

Extrait Common for Exportation.

Take—

Spirit at 90°, 30 qts.
Water of vervain, 2 qts.
Essence of geranium, 6½ ounces.
" clove, 13½ ounces.
" lavender, 6½ ounces.
" carvi, 3½ ounces.
" rosemary, 6½ ounces.
" marjolaine, 6 drs.
Water, 6 qts.

Extrait Duchesse.

Take—

Alcohol at 85°, 2 qts.
Bruised canella, 1 ounce.
" cloves, 1 ounce.
" sandal, 1 ounce.
Benzoin, 5 drs.
Bruised ambrette, 5 drs.

Digest fifteen days, pass through a fine sieve, and add—

Spirit of œillet, 4 ounces.
" violet, 4 ounces.
" bergamot, 4 ounces.
" jasmine, 4 ounces.
" rose, 4 ounces.
Tincture of amber and musk, 2 drs.

Filter several times, and keep in well-stopped bottles.

Extrait d'Eglantine.

Take—

Spirit of roses, distilled, 2 qts.
Extract of jonquille, 1 qt.
Infusion of orris root, 1 qt.
Essence of sweet fennel, ½ dr.
Extract of orange flowers, 3½ qts.
Rectified spirit, ¼ qt.

Extrait aux Fleurs.

Take—

Pommade aux fleurs, 2 lbs.
Rectified spirit at 90°, 1 qt.

Infuse eight days, stirring often.

Extrait de Fleur des Indes.

Take—

Extract of mousseline, 6 qts.
“ d’essence de bouquet, 6 qts.

Extrait de Fleurs d’Italie.

Take—

Extract de mousseline, 2 qts.
“ of orange, No. 6, 1 qt.
“ “ No. 14, 1 qt.
“ tuberose, No. 6, 1 qt.
“ “ No. 14, 1 qt.
“ rose, No. 6, 1 qt.
“ “ No. 14, 1 qt.
“ cassie, No. 6, 1 qt.
“ “ No. 14, 1 qt.
“ jasmine, No. 6, 1 qt.
“ “ No. 14, 1 qt.
“ essence de bouquet, 1 qt.
“ Marie Anna, 2 qts.

Extrait de Fleurs de Pecher.

Take—

Spirit at 90°, 1 qt.
Spirituous water of orange flowers, 1 lb.
Essence of bitter almonds, 1 dr.
“ lemon, 1 dr.
Tincture of balsam of Peru, 2½ drs.

Mix the alcohol with the essential oils; shake, and add the tincture of balsam of Peru; shake again, and add the spirituous water. Shake well, and allow it to stand fifteen days before using.

Extrait à la Frangipane.

Take—

Alcohol at 90°, 2 qts.
Extract of jasmin, 1 qt.
Spirituous water of rose, 4 ounces.
Spirit of cassia, 4 ounces.
Essence of bergamot, 1⅔ ounce.
" vanilla, 1⅔ ounce.
Tincture of Tolu, 1 ounce.
" Peru, 1 ounce.
" saffron, 1⅔ ounce.
" amber and musk, 2 drs.

Extrait de Jacinthe.

Take—

Alcohol at 90°, 2 qts.
Extract of jacinth, 1 qt.
Spirituous water of orange flower, ½ qt.
Tincture of benzoin, 1½ dr.
" amber, 1½ dr.

Extrait aux Essences de Geranium et de Verveine.

Take—

Very pure alcohol at 95°, 1 qt.
Essence of geranium, 3⅓ ounces.
" vervain, 3⅓ ounces.

Dissolve the essences in alcohol, and filter.

Extrait de Jasmin.

Take—

Alcohol at 85°, 2 qts.
Extract of jasmin, 1 qt.

Tincture of Tolu, ½ ounce.
" benzoin, ½ ounce.
" amber, 1¼ dr.

Extrait de Jasmin Supérieur.

Take—

Extrait of jasmin, 13 qts.
Infusion of ambrette, 1 qt.
" musk, ¼ qt.
Rectified spirit, 4 qts.

Extrait Jenny Lind.

Take—

Extract essence de bouquet, 6 qts.
" of rose, 2 qts.
" jasmine, 1 qt.
" tuberose, 1 qt.

Extrait Jockey Club.

Take—

Extract of eglantine, 4 qts.
" bouquet des dames, 2 qts.

Extrait Jockey Club.

Take—

Extract of tuberose, 2 qts.
" orange, 2 qts.
Infusion of orris, 1 qt.
Extract mousseline, 6 qts.
" de miel, 5 qts.
" essence de bouquet, 3 qts.
" lavender, 1 qt.

Extrait de Jonquille Composé.

Take—

Rectified alcohol, 2 qts.
Spirituous water of jonquil flowers, 1 qt.
“ “ orange flower, ½ qt.
“ “ réséda, ½ qt.
Tincture of amber, 1¼ dr.

Extrait d'Héliotrope.

Take—

Tincture of vanilla, 1 lb.
“ balsam Peru, 8 ounces.
Spirit of rose, 16 ounces.
“ jasmin, 16 ounces.
“ tuberose, 8 ounces.
“ orange flowers, 8 ounces.
Tincture of amber and musk, 2 drs.

Another Process.

Take—

Spirituous water of roses, 1 lb.
“ “ jasmin, 1 lb.
“ “ tuberose, 1 lb.
Tincture of vanilla, ½ lb.
“ balsam of Peru, ¼ lb.
“ amber, 1 ounce.

Extrait fin d'Héliotrope.

Take—

Extract of composed ambroisie, 6 qts.
Infusion of heliotrope, 6 qts.
“ vanilla, 2 qts.

Extract of rose, 4 qts.
" orange, 2 qts.
Infusion of musk, 1 qt.
Oil of bitter almonds, 2½ drs.

Extrait de Lavande.

Take—

Rectified spirit, 4 qts.
Extract of miel, 3 qts.
Essence of bouquet, 1½ qt.
Infusion of orris, 2½ qts.
" ambrette, 2 qts.
Musk, 8 ounces,
Amber, 8 ounces.
Vanilla, 1st, 8 ounces.
" 2d, 8 ounces.
Extract of chypre, 16 ounces.
Essence of lavender, 3⅓ ounces.
" bergamot, 2½ ounces.

Mix the spirit with the oils, shake, pour on them the infusions of musk, amber, vanilla, ambrette, orris; shake, and add the other ingredients. Shake and infuse fifteen days.

Extrait de Lilas.

Take—

Infusion of vanilla, 1 qt.
" orris, 2 qts.
Extract of orange, 4 qts.
" jasmin, 4 qts.
" tuberose, 2 qts.
" cassia, 1 qt.
" infusion of styrax, 8 ounces.
Essence of lemon, 2½ drs.
" bergamot, 2½ drs.
" bitter almonds, 15 drops.

Take a large vessel, and put into it gradually the infusions and the extracts; shake, and add the essences, being careful after each is added to stir well. Shut the bottle, and leave for fifteen days subjected to a gentle heat, stirring several times during the day.

Extrait Louisiana-Garden.

Take—

Extract of orange, 2 qts.
" tuberose, 2 qts.
" jasmin, 2 qts.
Tincture of balsam of Peru, 4 ounces.
" styrax, 4 ounces.
" musk, 1 ounce.
" amber, 1 ounce.

Extrait Magnolia Common.

Take—

Vervain water, 7 qts.
Extract of orange, 3 qts.
Spirit of roses, 4 qts.
" at 90°, 4 qts.
Essence of neroli, 1½ ounce.
" citronella, 1½ ounce.

Extrait Maréchal.

Take—

Infusion maréchal, No. 14, 4 qts.
" " No. 7, 4 qts.
Extract of jasmin, No. 12 or 6, 1 pt.
" " No. 24 or 14, 1 pt.
" orange, No. 12 or 6, 1 pt.
" " No. 14 or 24, 1 pt.

Extract of tuberose, No. 12 or 6, ½ pt.
" " No. 24 or 14, ½ pt.
" cassia, No. 12 or 6, ½ pt.
" " No. 24 or 14, ½ pt.
Infusion of amber, 4 ounces.
" musk, 2 ounces.

Extrait Metropolitain en Delices.

Take—

Extract essence de bouquet, 4 qts.
" de miel, 6 qts.
Eau de Cologne, extra forte, 1 qt.
Infusion of orris, 2 qts.

Extrait de Mignonette.

Take—

Extract of fleurs de Mai, 1 qt.
" violette composée, 1 qt.
" réséda, 1 qt.
" jasmine, 1 qt.
" composed musk, ¼ qt.

Extrait de Miel d'Angleterre.

Take—

Rectified spirit, 5 qts.
Extract of jasmine, 3 qts.
" tuberose, 3 qts.
Infusion of vanilla, 1 qt.
" orris, 1 qt.
Benzoin, 4 ounces.
Musk, 1 ounce.
Amber, 1 ounce.
Civet, 2½ drs.

Essence of rose, 5 drs.
" clove, ½ ounce.
" bergamot, 1 ounce.

Extrait de Millefleurs Common.

Take—

Infusion of vanilla, 2 qts.
" lavender, 1 qt.
" ambrette, 1½ qt.
Spirit at 90°, 9 qts.
" of rose, 1 qt.
Essence of lemon, 4 ounces.
" canella, 1¼ dr.
" bergamot, 2 ounces.
" clove, ½ ounce.
" geranium, ½ ounce.
Water, 1 qt.
Rose water, 2 qts.

Extrait de Millefleurs.

Take—

Essence of neroli, ½ dr.
" clove, 1 dr.
Tincture of vanilla, 1 ounce.
Rectified alcohol, 1 qt.

Shake, and then add—

Spirituous water of bouquet, 1 qt.
" " rose, 1 lb.
Orange flower water, 8 ounces.
Tincture amber, ½ dr.
" musk, ½ dr.

Filter, after fifteen days.

Extrait de Millefleurs.

Take—
Extract essence bouquet, 2 qts.
“ mousseline, 2 qts.
“ miel, 2 qts.
“ lavender, 1 qt.
“ orange, 2 qts.
“ jasmine, 2 qts.
Infusion of heliotrope, 1 qt.
“ orris, 1 qt.
“ clove, 1 qt.
Essence of Portugal, 4 ounces.
Infusion of styrax, 4 ounces.
“ storax, 4 ounces.
“ Tolu, 4 ounces.

Extrait Mousseline.

Take—
Alcohol at 90°, 1 qt.
Tincture of orris, 4 ounces.
Essence of neroli, 2½ drs.
“ geranium, 2½ drs.
“ thyme, ½ dr.
Tincture of amber, 1 ounce.
“ musk, ½ ounce.
“ benzoin, 5 drs.
Extract of jasmine, 25 drs.
Essence of rose, ½ dr.
Extract of réséda, 2½ drs.

Extrait Mousseline.

Take—
Extract of miel, 12 qts.
Essence de bouquet, 6 qts.

Essence de orange, 6 qts.
Infusion mousseline, 9 qts.
" ambroisie, 3 qts.
" chypre, 6 qts.
" vanilla, 3 qts.
" musk, 3 qts.
" lavender, 3 qts.
Essence of rose, 4 ounces.
" pepper, 4 ounces.
" canella, ½ ounce.
Rose water, 1 qt.

Extrait de Musc.

Take—

Extract of roses, 2 qts.
" tuberose, 2 qts.
" orange, 4 qts.
Infusion of chypre, 2 qts.
" musk (2d charge), 2 qts.
" ambrette, 1 qt.
" musk (1st), ½ qt.
" amber, 1 pt.

Another Formula.

Take—

Extract of orange flowers, 5 qts.
" tuberose, 3 qts.
" rose, 2 qts.
Infusion of vanilla, ¾ qt.
" santal, ¼ qt.
" musk, 11 ounces.

Another Formula.

Take—

Tincture of ambrette, ½ qt.
" musk, 1⅔ ounce.
" vanilla, 3 drs.
" Tolu, 2½ drs.
Essence of rose, ¼ dr.

Shake, and filter after twelve hours.

Extrait de Myrte Fleuri.

Take—

Extract of composed musk, 2 qts.
" jasmine, 1 qt.
" orange, 1 qt.
" rose, 1 qt.
" tuberose, 1 qt.
Essence of myrtle, 2 ounces.

Extrait de Nard des Montagnes.

Take—

Extract of roses, 6 qts.
" tuberose, 2 qts.
" jasmine, 2 qts.
Essence of English lavender, 4 ounces.
Infusion of musk, 6 ounces.
" amber, 6 ounces.
Essence of bergamot, 2 ounces.
Infusion of civet, 6 drs.

Extrait Noblesse.

Take—

Extract essence of bouquet, 2 qts.
“ bouquet Caroline, 1 qt.
“ lavender, 1 qt.
“ fleur de Mai, 1 qt.
“ jockey club, 1 qt.

Extrait des Odalisques.

Take—

Essence of lemon, ½ ounce.
“ bergamot, 2½ drs.
“ cedrat, 2½ drs.
Tincture of amber and musk, 1¼ drs.
Vervain water, 8 ounces.
Alcohol at 33°, 1 qt.

Extrait d'Œillet.

Take—

Alcohol at 95°, 1½ qt.

Infuse in for three weeks—

English clove, 8 ounces.
Canella, 2½ drs.

Filter, and add—

Essence of clove, 2½ drs.
“ canella, ¼ dr.
“ Portugal, 2½ drs.
“ geranium, 2½ drs.
Tincture of balsam of Tolu, 2½ drs.
Essence of rose, a few drops.

Another Formula.

Take—
Infusion of clove, 2 qts.
Extract of tuberose, 1 qt.
“ orange, 1 qt.
“ rose, 4 qts.
“ jasmine, 4 qts.
Infusion of musk, 20 drs.
“ vanilla, 20 drs.
“ Tolu, 20 drs.
Essence of Portugal, 2½ drs.
“ clove, 5 drs.
“ neroli, 2½ drs.

Extrait de Patchouly.

Take—
Very pure alcohol at 85°, 1 qt.
Essence of patchouly, 12½ drs.
“ bergamot, 6 drs.
Tincture of benzoin, 5 drs.

Extrait de Patchouly.

Take—
Rectified spirit, 6 qts.
Extract of cassia, 2 qts.
“ bouquet Caroline, 4 qts.
Infusion of orris, 3 qts.
Essence of patchouly, 4 ounces.
“ cedar, 3⅓ ounces.

Extrait de Patchouly.

Take—
Spirit at 90°, 12 qts.
Extract essence of bouquet, 5 qts.
Infusion of powder, 3 qts.

Essence of patchouly, 10 ounces.
" cedar, 6¼ ounces.
" geranium, 3⅓ ounces.

Extrait de Patchouly for Exportation.

Take—

Spirit at 90°, 20 qts.
Vervain water, 1 pt.
Extract essence of bouquet, 1 pt.
Essence of patchouly, 2 ounces.
" cedar, 2 ounces.
" clove, 1 ounce.
Water, 5 qts.

Extrait de Pois de Senteur.

Take—

Extract of orange, 10 qts.
" tuberose, 2 qts.
Spirit of roses, 2 qts.
Infusion of vanilla, 3 qts.
Rose bergamot, 1 qt.
Orange-flower water, 1 qt.
Infusion of styrax, 3 ounces.

Extrait de Portugal.

Take—

Alcohol at 85°, 1 qt.
Essence of Portugal, 8 ounces.

Dissolve the essence in the alcohol, and filter twenty-four hours after.

Extrait de Portugal, Common.

Take—

Spirit at 90°, 15 qts.
Essence of Portugal, 27 ounces.
Water, 3 qts.

Extrait de Portugal.

Take—

Rectified spirit at 90°, 1 pt.
Spirit of orange flowers, 1 qt.
Essence of Portugal, 4 lbs.

Extrait de Pré Fleuri.

Take—

Extract of ambroisie, 2 qts.
" lavender, 2 qts.
" essence of bouquet, 2 qts.
" sweet pea, 2 qts.

Extrait de Réséda.

Take—

Alcohol at 33°, 2 qts.
Extract of réséda, 1 qt.
" rose, 1 ounce.
Tincture of amber, 2 drs.
" Tolu, 4 drs.

Extrait de Réséda.

Take—

Extract of violet, 6 qts.
" cassia, 6 qts.
" jasmine, 2 qts.
" rose, 2 qts.

Infusion of orris, 1 qt.
" musk, 2 ounces.
Essence of neroli, 1 ounce.
" geranium, ½ ounce.

Extrait de Roses Supérieur.

Take—
Extract of roses, 2 qts.
Spirit of roses, 2 qts.
" rectified, 2 qts.
Extract of miel, 1 pt.

Extrait de Roses de Turquie.

Take—
Extract of roses, No. 24, 2 qts.
" " No. 12, 1 qt.

Extrait Vegetal de Roses.

Take—
Spirit at 90°, 50 qts.
Essence of roses, 1 ounce.
" geranium, 2 ounces.
" bergamot, 4 ounces.
" clove, 2 ounces.
" rhodia composed, 1 ounce.
" miel, 3 qts.
Infusion of benzoin, ¼ qt.
Rose water, 6 qts.
Water, 9 qts.

Extrait de Verveine.

Take—
Spirit at 90°, 12 qts.
Essence of limette, 2 lbs.
" lemon, 1 lb.

Essence of geranium, 2½ drs.
“ rose, 2½ drs.
“ vervain, 6 ounces.

Extrait de Vetivert.

Take—
Spirit, 4 qts.
Extract of jasmine, 1 qt.
“ tuberose, 1 qt.
“ orange, 1 qt.
“ rose, 1 qt.
“ cassia, 1 qt.
Essence of vitivert, 4 ounces.

Extrait Common de Violette.

Take—
Extract of violet, 3 qts.
Spirit at 90°, 6 qts.
Infusion of ambrette, 1 qt.
Water, 2 qts.

Extrait de Violette.

Take—
Infusion of orris, 1 qt.
Essence of vervain, 2½ drs.
“ geranium, 1¼ dr.
“ roses, ¼ dr.
Tincture of storax, 3 drs.

Extrait de Violette.

Take—
Rectified alcohol, 2 qts.
Extract of violet, No. 28, 1 qt.
“ cassia, 1 pt.
Spirituous water of roses, 1 pt.
Tincture of amber, 1¼ dr.

Extrait de Violette.

Take—

Extract of cassia, 21 qts.
" jasmine, 7 qts.
Infusion of orris, 7 qts.
" ambrette, 7 qts.
Spirit at 90°, 10 qts.
Essence of geranium, 7 ounces.
" bergamot, 7 ounces.

Extrait de Violettine.

Same composition as the above.

Essence de Violettes Supérieure.

Take—

Extract of violet, 12 qts.
" jasmine, 1 qt.
" rose, 1 qt.
" cassia, 1 qt.
Essence of bouquet anglais, 60 qts.
" orris, 30 qts.

Extrait de Violettes de Parmee.

Take—

Extract of violet, No. 28, 2 qts.
" " No. 12, 1 qt.

Eau Séringer.

Take—

Extract of orange, No. 6, 2 qts.
" " No. 14, 1 qt.
" cassia, No. 6, 1 pt.
" " No. 14, 1 pt.

Extract of rose, No. 6, 1 pt.
" " No. 14, 1 pt.
Infusion of clove, 4 ounces.
" styrax, 2 ounces.

Extrait de Tubéreuse.

Take—

Alcohol at 85°, 2 qts.
Extract of tuberose, 1 qt.
Spirituous water of rose, 1 pt.
Tincture of Tolu, ½ ounce.
" amber, 1¼ dr.

CHAPTER LXIX.

COMPOSED INFUSIONS.

Infusion Maréchale Composée.

Take—

Extract of orange flower, 6 qts.
" rose, 4½ qts.
" jasmine, 4 qts.
" tuberose, 3 qts.
" cassia, 1½ qt.
Powder maréchal, 3¾ lbs.

Infuse for one month.

Another Receipt.

Take—

Extract of orange flowers, 3 qts.
" rose, 2½ qts.
" cassia, 1½ qt.
" tuberose, 1½ qt.
" jasmine, 2 qts.
Powder maréchal, 2 lbs.

Infuse for one month at a gentle heat.

Infusion Chypre Composée.

Take—

Extract à la fleur d'oranger, 3 qts.
" rose, 3 qts.
" jasmine, 3 qts.
" tuberose, 3 qts.
" cassia, 1 qt.
Powder of chypre, 2 lbs.

Infusion Ambroisie Composée.

Take—

Extract of rose, 4 qts.
" tuberose, 3 qts.
" orange flowers, 3 qts.
" jasmine, 3 qts.
Powder of ambroisie, 2 lbs.

Infusion Mousseline Composée.

Take—

Extract of orange flowers, 3 qts.
" rose, 2 qts.
" tuberose, 2 qts.
" jasmine, 2 qts.
" cassia, 1 qt.
Powdered body of mousseline, 1¾ lb.

Infusion Héliotrope Composée.

Take—

Extract of orange flowers, 6 qts.
" cassia, 3 qts.
" rose, 3 qts.
" jasmine, 3 qts.
" tuberose, 3 qts.
Powder of heliotrope, 2 lbs.

The infusions of clove, Tolu, benzoin, tonka, sandal, ambrette, orris, and lavender, are treated with the same proportions.

Alcohol at 90°, 1 qt.

For—

Powder, 8 ounces.

The infusion of musk, civet, and amber, are treated with the same proportions.

Substance, 1 ounce.
Alcohol at 90°, 1 qt.

Infusion Vanille Composée.

Take—

Extract of orange flowers, 4 qts.
" tuberose, 4 qts.
" rose, 4 qts.
" jasmine, 3 qts.
Mexican vanilla, 1st quality, 2 lbs.

Infusion de Bois de Rhodes.

Take—

Extract of jasmine, No. 6, 2 qts.
" " No. 14, 2 qts.
" tuberose, No. 6, 2 qts.
" " No. 14, 2 qts.

Extract of rose, No. 6, 2 qts.
" " No. 14, 2 qts.
" orange flowers, No. 6, 2 qts.
" " No. 14, 2 qts.
Powdered rhodium wood, 8 lbs.

CHAPTER LXX.

LAVENDERS.

Eau de Vie de Lavande.

Take—

Spirit at 90°, 7 qts.
Essence of lavender, 5 ounces.
Water, 3 qts.

Eau de Vie de Lavande, No. 50.

Take—

Spirit at 90°, 60 qts.
Essence of lavender, 1 lb.
" aspic, 1 lb.
Water, 40 qts.

Eau de Vie de Lavande Ambré, Common.

Take—

Spirit at 90°, 7 qts.
Essence of lavender, 5 ounces.
Water, 3 qts.
Infusion of amber and musk, ½ ounce.

Lavande Ambrée au Jasmin.

Take—
Lavender ambrée supérieure, 12 qts.
Extract of jasmine, 5 qts.
Infusion of ambrette, 2 qts.
Spirit, 2 qts.
Rose water, 2 qts.

Lavande Ambrée Supérieure.

Take—
Spirit at 90°, 60 qts.
Infusion of lavender, 20 qts.
“ Tolu, 3 qts.
“ benzoin, 3 qts.
“ sandal, 7 qts.
“ storax in cake, 3 qts.
“ “ calamite, 1 qt.
Infusion of balsam of Peru, 1 qt.
Essence of lavender, 3 lbs.
“ bergamot, 1½ lb.
“ clove, 12 ounces.
“ geranium, 8 ounces.
“ water of orange leaves, 20 qts.

Lavande Royale Ambrée.

Take—
Rectified spirit, 25 qts.
Infusion of Tolu, 1 qt.
“ benzoin, 1 pt.
“ storax calamite, 1 qt.
“ “ in cake, 1 qt.
“ clove, 1 qt.
“ canella, 1 qt.
“ balsam of Peru, 1 pt.

Infusion of santal, 5 qts.
“ spirit of rose, 5 qts.
“ rose water, 7 qts.
Essence of lavender, 1 lb.
“ bergamot, 8 ounces.
“ clove, 1 ounce.
Infusion of musk, 8 ounces.

Lavande Ambrée Blanche.

Take—
Spirit at 90°, 75 qts.
Infusion of tonka, 10 qts.
“ ambrette, 10 qts.
“ vanilla, 2½ qts.
“ Tolu, 2 qts.
“ lavender ambrée, 5 qts.
Essence of bergamot, 2½ lbs.
“ clove, 21 ounces.
“ lavender, 3 lbs.
“ rose, 2½ ounces.
Water, 8 qts.

Lavande Anglaise.

Take—
Spirit at 90°, 8 qts.
Lavender ambrée supérieure, 3 qts.
Infusion of tonqua, 2 qts.
“ Tolu, 1 qt.
“ ambrette, 2 qts.
“ civet, 1⅔ ounce.
Essence of lavender, 5 ounces.
“ bergamot, 2 ounces.
“ clove, ½ ounce.
Water, 2 qts.

Lavande Anglaise Supérieure.

Take—

Essence of lavender, 3 drs.
" bergamot, 3 drs.
" rose, 1½ dr.
" clove, 1½ dr.
" rosemary, ¾ dr.
Tincture of musk, ¾ dr.
Benzoic acid, ½ dr.
Extract of miel d'Angleterre, 1 ounce.
Alcohol at 90°, 1 lb.
Spirituous rose water, 50 lbs.

Lavande Triple Distillée.

Take—

Spirit at 90°, 20 qts.
Essence of roses, 5 qts.
" lavender, 21 ounces.
" bergamot, 8 ounces.
Infusion of Tolu, ½ pt.

Infuse fifteen days.

Lavande aux Herbes de Montpellier.

Take—

Spirit at 85°, 24 qts.
Essence of lavender, 2 lbs.
" bergamot, 8 ounces.
" rosemary, 2 ounces.
" thyme, 2 ounces.

Lavande Royale aux Fleurs.

Take—

Rectified spirit, 7 qts.
Extract of orange flowers, 10 qts.
Spirit of rose, 10 qts.
Infusion of sandal, 10 qts.
  “ ambrette, 4 qts.
  “ balsam of Peru, 1 qt.
  “ storax calamite, 2 qts.
  “ Tolu, 3 qts.
  “ benzoin, 1 qt.
Spirit of rose, 6 qts.
Essence of cloves, 4 ounces.
  “ bergamot, 16 ounces.
  “ lavender, 21 ounces.
Infusion of musk, 8 ounces.
  “ amber, 1 qt.
  “ civet, 3¼ ounces.

CHAPTER LXXI.

ENGLISH RECEIPTS.

Her Majesty's Perfume.

Take—

Enfleurage à la rose, 3⅓ ounces.
  “ de violette, 1⅔ ounce.
  “ of orange flowers, 1 ounce.
  “ tuberose, 1 ounce.
Tincture of orris, 3 ounces.
  “ vanilla, 3 ounces.

Albion Nosegay.

Take—

Essence of rose, 1⅔ ounce.
Enfleurage of rose, 1⅔ ounce.
Tincture of orris, 1 ounce.
“ vanilla, ½ ounce.
“ musk, 1½ dr.
“ castoreum, 1½ dr.
Essence of bergamot, 5 drs.

White Roses.

Take—

Enfleurage de rose, 1⅔ ounce.
Essence de rose, 1⅔ ounce.
Enfleurage d'acacia, 1 ounce.
“ de jasmine, 3 drs.
Essence of patchouly, 1½ dr.

Excelsior Perfume.

Take—

Enfleurage of acacia, 1⅔ oz.
“ orange flowers, 1⅔ oz.
“ jasmine flowers, 1⅔ oz.
Essence of rose, 1⅔ oz.
Tincture of vanilla, 1 oz.
“ civet, 3 drs.
Oil of bitter almonds, ½ dr.

Frangipanni's Scent.

Take—

Enfleurage of violet, 1 qt.
Tincture of orris, 1 qt.
" vanilla, $1\frac{2}{3}$ ounce.
Essence of neroli, $1\frac{2}{3}$ ounce.
" rose, $1\frac{2}{3}$ ounce.
Tincture of tonka, 1 ounce.
" musk, 3 drs.
Essence of sandal wood, 3 drs.
" clove, $\frac{1}{4}$ dr.

St. Valentine's Nosegay.

Take—

Enfleurage of acacia, 1 qt.
" jasmine, $1\frac{2}{3}$ ounce.
" jonquille, $1\frac{2}{3}$ ounce.
Spirit of rose, $1\frac{2}{3}$ ounce.
Tincture of balsam of Peru, 3 drs.
Essence of lemon peel, 1 ounce.
" orange peel, 3 drs.

SECTION XII.

FUMING PASTILS—CLOVES—SACHETS—CASSOLETTES.

CHAPTER LXXII.

FUMING PASTILS.

These compounds, consisting of odoriferous substances, diffuse an agreeable perfume during their slow combustion, and hence are convenient for dissipating bad odors in the room of the sick, or elsewhere.

Simple Pastils.

Take—

Benzoin, ½ ounce.
Cassia, 1 dr.
Charcoal, 2 ounces.
Saltpetre, 1 dr.

Reduce the whole to powder, and mix into a paste with a solution of one ounce of gum tragacanth to the pint.

Pastilles au Benzoin.

Take—

Benzoin, 8 ounces.
Storax, 5 grs.
Cassia, 5 grs.
Dry Peru balsam, 2 drs.
Cloves, ½ dr.
Charcoal, ½ ounce.
Nitre, 1 dr.
Essential oil of orange flowers, ½ dr.
Tincture of ambergris, ½ dr.

Pastilles à la Rose.

Take—

Powdered gum, 6 ounces.
" olibanum, 6 ounces.
" storax, 6 ounces.
" saltpetre, 4 ounces.
Powder à la rose, 8 ounces.
Charcoal, 2 lbs.
Essence of roses, ½ ounce.

Mix the powders together, and add to them a quart of rose water, in which has been dissolved an ounce of gum tragacanth. Rub well in a mortar, and form the pastils of this paste.

Pastilles à la Vanille.

Take—

Gum galbanum, 6 ounces.
" olibanum, 6 ounces.
Storax, 6 ounces.
Nitre, 4 ounces.
Cloves, 4 ounces.
Powder à la vanille, 8 ounces.
Charcoal dust, 2½ lbs.
Essence of cloves, 2 drs.
" vanilla, 4 ounces.

Pastilles à la Fleur d'Oranger.

Take—

Gum galbanum, 12½ ounces.
Olibanum, 12½ ounces.
Storax, 12½ ounces.
Water, 8 ounces.
Powder à l'orange, 16 ounces.
Charcoal dust, 4 lbs.
Neroli, 1 ounce.

Pastilles à l'Ambre.

Take—

Benzoin, 8 ounces.
Storax, 4 ounces.
Laudanum, 2 ounces.
Aloes, 4 ounces.
Rhodium wood, 4 ounces.
Storax calamite, 4 ounces.
Gray amber, 4 ounces.
Musk, ½ ounce.
Civet, ¼ ounce.
Charcoal dust, 8 ounces.
Saltpetre, 1 ounce.

Powder the whole, and pass through a sieve. Prepare the mucilage with ½ ounce of gum tragacanth dissolved in 1 pint of rose water. Add to it 2 oz. essence of musk and 2 oz. essence of vanilla. Stir all these liquids, and prepare the paste.

Pastille des Indes.

Take—

Yellow saunders, 8 ounces.
Aloe wood, 4 ounces.
Cinnamon, 4 ounces.
Rhodium wood, 4 ounces.
Clove wood, 2 ounces.
Sassafras, 2 ounces.
Myrrh, 2 ounces.
Benzoin, 4 ounces.
Storax, 4 ounces.
Vanilla, 2 ounces.
Musk, 2 drs.
Ambergris, 2 drs.
Civet, 1 dr.
Amber, 2 ounces.

Sieve as fine as possible; use the mucilage as before, adding ½ dr. of essential oil of cloves, and as much of essential oil of rhodia.

Pastilles au Bouquet des Champs.

Take—

Rhodium wood, 8 ounces.
Storax calamite, 4 ounces.
Laudanum, ½ ounce.
Sandal, 2 ounces.
Myrrh, 4 ounces.
Charcoal, 1½ lb.

Pastilles au Benzoin et au Musc.

Take—

Powdered sandal, 1 lb.
" vitivert, 1⅔ ounce.
Cascarilla, 8 ounces.
Powdered benzoin, 8 ounces.
Musk, 3 drs.
Powdered saltpetre, 2 ounces.

Rubans de Bruges.

Make a solution of 2 ounces of nitrate of potash in 1 pint of water, and pass through it cotton ribbon; dry it, and put it in the following mixture:—

Alcohol at 85°, 8 ounces.
Musk, 3 drs.
Essence of roses, 1 dr.
Benzoin, 3⅓ ounces.
Myrrh, 3 drs.
Orris, 8 ounces.

When the ribbons are dried, they are ready for use.

Of the Form of the Pastils.

After having well kneaded and rolled the paste upon a marble slab, it is elongated into slender lengths, which are then subdivided into small pieces, of about an inch in height. These pieces, in their turn, are flattened with the blade of a spatula, or else formed with the fingers into little cones. Such were the old methods; they are now superseded. It is better to spread the pastil mass or paste with a rolling pin, and from this sheet cut out, with suitable pinches, small pieces, representing leaves, hearts, etc.

CHAPTER LXXIII.

FRAGRANT PASTILS FOR NECKLACES OR BRACELETS.

Pâte de Violettes de Chypre.

Take—

Powder of orris, 1 ounce.
" chypre, 1 ounce.
" mousseline, 1 ounce.
Isinglass, 6 drs.
Gum tragacanth, 2 drs.
Lamp black, 2 drs.

Dissolve the gum and isinglass in boiling water, make a very thick solution, and add to it the powders, well mixed. When the paste has become homogeneous, make it into rolls of ordinary size; cut them into small pieces, roll them between the fingers to form little balls.

Pâte de Roses.

Take—

Rose leaves, 2 ounces.
Lamp black, 1½ dr.
Isinglass, 1 ounce.
Gum tragacanth, ½ ounce.

Operate as above.

Pâte de Menthe ou de Jasmin.

Take—

Flowers of mint or jasmine, 1 oz.
Gum tragacanth, ½ oz.
Vermilion, 2 oz.

Clous Fumants et Odorants.

Take—

Powdered benzoin, 2 ounces.
Tolu balsam, ½ ounce.
Powdered yellow saunders, ½ ounce.
Nitrate of potash, 2 drs.
Powdered gum Arabic, 2 drs.
Gum tragacanth, 1 dr.
Charcoal, 6 ounces.
Cinnamon water, 12 ounces.
Laudanum, 1 dr.

Triturate together the laudanum, balsam, saunders, nitre, charcoal, and then the benzoin. When thoroughly mixed and uniform, add the gum previously made into a mucilage with the cinnamon water, and rub the whole into a paste. Of this paste form little cones about one inch in height, and dry them.

CHAPTER LXXIV.

CASSOLETTES.

Cassolettes are small urns of earthenware, porcelain, or metal, with calendered tops. Having been filled with odorous materials, they are heated at the bottom, and the volatile perfume escapes through the holes, and diffuses its odor. They are filled with composition as follows:—

Cassolettes Odoriferants à l'Ambre.

Black amber in powder, 4 lbs.
Powder à la rose, 2 lbs.
Benzoin in powder, 1 oz.
Essence of rose, ½ oz.
Gum tragacanth in powder, ½ lb.
Oil of santal, a few drops.

Cassolettes de Portugal.

This powder is equally employed for pastils, sachets, and cassolettes.

Take ½ lb. of dry orange peel, 2 lbs. cloves, 1 oz. storax, 1 oz. benzoin, 2 drs. of ambrette, 1 dr. of musk and amber; pulverize them all, and add ½ an oz. of tragacanth, and form a paste with a sufficient quantity of essence of bergamot. When the composition is intended for sachets, the essence and tragacanth are omitted.

Cassolettes Aromatiques.

Powder finely, after having dried them, first, of mint, sage, absinthe, lavender, rosemary, marjoram, and thyme, flowers and tops, each, 8 oz.; second, of balm, myrtle, sweet basil, chamomile, citronella, laurel, and hyssop, each 4 oz.; third, of roses and orange, each 8 oz.; fourth, of juniper berries, cloves, coriander, badiane, and fenugrec, each 2 oz.; fifth, of angelica, calamus, gálanga, and orris root, each 2 oz.; sixth, of cinnamon, sassafras, rhodium woods and lemon peel, each 2½ oz.

Sieve, and make into a paste with a mixture of essence of ginger and tincture of benzoin, or with a little Cologne water.

Cassolettes du Sérail.

Take—

Storax, 250 grs.
Benzoin, 120 grs.
Mecca balsam, 120 grs.
Cloves, 50 grs.
Yellow saunders, 60 grs.
Ambergris, 15 grs.

Pulverize and mix into paste, and mould into forms.

CHAPTER LXXV.

SACHETS.

These articles—for some time heretofore out of use—are again in fashion. The sachet consists of a small muslin bag, inclosing fragrant powders, with an elegant outer covering or envelope of silk or satin, of color in every variety, and ornamented with devices suitable to the taste of the customer. They are used for perfuming wardrobes and clothes-chests.

In speaking of powders, those which are particularly adapted to sachets were mentioned, but generally the *body* of most all of the odorous powders is applicable.

1. *Sachet Powder.*

Orris root, 4 oz.
Calamus, 2 oz.
Yellow saunders, 4 drs.
Cloves, 2 drs.
Benzoin, 4 drs.
Dry bergamot, 1 oz.

Reduce to fine powder, and mix thoroughly.

2. *Sachet Powder.*

Dried rose leaves, 8 oz.
Cloves, 4 drs.
Nutmegs, 4 drs.

Sachet au Bouquet des Grâces.

Orris root, 6 oz.; dry orange flowers, dry rose leaves, 6 oz.; dry bergamot peel and Portugal, orange peel, 6 oz.; storax, 2 oz. Powder well, sieve, and with the powder fill the sachets.

Sachets à la Vanille.

Vanilla 4 oz., storax 4 oz., cloves 2 drs., benzoin 4 oz., musk ½ dr., rhodium wood 4 oz. This wood is added more to facilitate the reduction of the drugs, which are in part greasy and resinous, than for its odor. After being well powdered, the mixture is sieved; if there is any difficulty in passing it through, add a little dry starch and ebony dust.

Sachets à l'Ambré.

Lay out squares of raw cotton, of the form and size of the sachet, and saturate them with powder *à l'ambre;* or, better, amber in powder. Cover them with satin or silk.

Sachets de Peau d'Espagne, au Musc.

Take of raw cotton as above, and sprinkle over a little essence of ambrette or musk.

Envelop the cotton with *peau d'Espagne* or silk.

Peau d'Espagne.

This skin, some years since in very general use, is of strong odor, and, like the sachet, is used for clothes, wardrobes, and bureau drawers.

Take a skin (kid), white dressed, pliant, not too thick, and steep it in rose and orange flower waters, to which have been previously added the yolks of a few eggs. Work it well, and let it soak for five or six hours; then take out, press, and spread it until the morrow, taking care to extend it tightly, so as to prevent its shrinking. Again, soak in rose and orange flower water, to which have been added some drops of essence of amber and musk. Steep it again in these waters, and after five or six hours' maceration therein, withdraw and press it. Now make a thin mucilage of your tragacanth in rose and orange flower waters, tinctured with a few drops of essence of amber and musk; this done, in a slightly heated mortar, rub up 4 drs. of amber and 4 drs. of musk, with a little of the mucilage first, and gradually add the rest, after the mixture has been well reduced to a paste. In this mucilage soak the skin for a week, giving it a daily kneading with the spatula, and keeping it well covered all the time. It is then drawn out, pressed, and carefully spread to dry, pulling it frequently to increase its pliability, and to prevent shrivelling or shrinking. When the skin is dry, take ½ oz. essence of musk, ½ oz. essence of vanilla, mix them with a little mucilage, and with a camel's-hair brush apply a coating thereof, and repeat the application twice, leaving sufficient interval between the two to permit the drying of the first heat. The skin, as lastly treated, is placed between two papers to dry, gradually, and is then kept between the same papers in close boxes. The remaining mucilage should be preserved, as it can be used in the preparation of odorous waters, as amber, musk, etc. This skin improves by age.

SECTION XIII.

TOILET VINEGARS.

The best vinegar should be used for these articles; that which is called *white wine vinegar*, made by acetification or oxidation of alcohol, is the best.

These vinegars are perfumed and made in two ways, by *distillation* or *infusion*. However, distillation is the best mode, for whilst increasing the strength of vinegar, it whitens it.

They are also prepared by solution, *i. e.*, by dissolving, for example, 1 oz. of essential oil in a sufficient quantity of alcohol, and adding it to a quart of vinegar. This is the easiest and most speedy mode of preparing all the kinds of vinegars.

CHAPTER LXXVI.

VINEGARS BY INFUSION.

These are divided 1st, *in vinegars of flowers*; 2, aromatic vinegars.

Vinaigre de Toilette de Sinfar.

Take—

Alcohol at 33°, 8 qts.
White vinegar, 2 qts.
Eau de Cologne, 1 pt.
Essence of benzoin, 2 ounces.
" storax, 2 ounces.

Acetic acid, 4 ounces.
Essence of lavender, 1½ ounce.
" cinnamon, 1 dr.
" cloves, 1 dr.
Ammonia, 1 dr.

Mix together the alcohol, lavender, cinnamon, and cloves, macerate for eight days; add the vinegar, Cologne, extract, and ammonia; color, and filter.

Vinaigre Rosat.

Take—

Dry rose leaves, red, ½ lb.
Good vinegar, 8 qts.

Macerate two weeks, and filter.

Vinaigre à la Fleur d'Oranger.

Take—

Fresh orange flowers, 1½ lb.
Vinegar, 8 qts.
Brandy à la fleur d'oranger, 1 qt.

Macerate twelve days, and filter.

Vinaigre à l'Œillet Rouge.

Take—

Œillets de ratafia prepared as roses, 1 lb.
White vinegar, 12 lbs.

Infuse six days, and filter.

Vinaigre à la Jonquille.

Operate as with the above.

Vinaigre à la Lavange, de Sauge, Thyme.

Take—

Fresh flowers, 1 lb.
Vinegar, 12 qts.

Vinaigres de Menthe poivrée, de Menthe fine, de Melisse.

Operate as with the above.

Vinaigre Framboisé.

Take—

Crushed fresh raspberries, 6 lbs.
Good vinegar, 1 qt.

Macerate one week, strain, and after a few days filter.

CHAPTER LXXVII.

VINEGARS BY DISTILLATION.

Vinaigre à la Rose.

Take—

Dry rose leaves, 2 lbs.
Vinegar, 8 lbs.
Alcohol à la rose, 2 lbs.

Distil the rose leaves and vinegar over a sand-bath, and after drawing three-quarters of the liquid, arrest the distillation. Color the alcohol with a little cochineal, and add it to the vinegar. This vinegar is put-up in ground bottles with stoppers.

Vinaigre à la Lavande.

Take—

Good vinegar, 12 qts.
Fresh lavender flowers, 3 lbs.

Infuse two weeks, distil over a water-bath, with a moderate heat at first, and run off eight quarts of vinegar.

Vinaigre de Romarin.

Take—

Vinegar, 30 qts.
Flowers of rosemary, 2 lbs.

Distil, and draw off fifteen quarts.

Vinaigre à l'Orange.

Take—

Orange peel.
Vinegar.
Alcohol à l'orange.

Operate as for the vinegar à la rose.

Vinaigre à la Bergamote.

Take two dozen good ripe bergamots, peel them, and digest the rinds in eight quarts of vinegar for a week; distil over a water-bath, and run off five quarts.

Vinaigre au Cedrat.

Operate as above.

Vinaigre au Musc.

Take—

Vinegar, 8 qts.
Musk, 4 drs.
Amber, ½ dr.

Infuse several days, and distil six quarts.

Vinaigre au Girofle, à la Muscade.

Take—

Cloves, 6 ounces.
Alcohol, 2 lbs.
Vinegar, 8 lbs.

Infuse the cloves in alcohol for eight days, add the vinegar, and then distil.

Vinaigre à l'Ambre.

Take—

Gray amber, 1 ounce.
Musk, ½ dr.

Rub them in a warm mortar; when powdered, humect them with a little vinegar; clean the mortar and pestle with a portion of the vinegar taken from eight quarts. Leave it to infuse one month in the sun, after which distil six quarts.

Vinaigre à la Civette.

Operate as above, only for eight quarts of good vinegar, take—

Musk, 2 drs.
Amber, 1 dr.
Civet, 2 drs.

Vinaigre à l'Ambrette.

Use 8 ounces of ambrette for 4 lbs. of white vinegar; infuse ten days, and distil.

Vinaigre à la Canelle.

Take—

China canella, 8 ounces.
Alcohol at 90°, 2 lbs.
Vinegar, 8 lbs.

Operate as with the above.

CHAPTER LXXVIII.

VINEGARS BY SOLUTION.

Vinaigre Virginal.

Take—

Powdered benzoin, 2 ounces.
Alcohol, 8 ounces.
Vinegar, 2 lbs.

Digest the benzoin in alcohol for one week; decant the liquor, and to the residue add the vinegar; after six days of infusion decant, mix the two liquors, and filter next day.

Vinaigre Balsamique.

Take

Tincture of Mecca balsam, 12 drs.
Vinegar, 1 qt.

Vinaigre des Sultanes.

Mix together 2 quarts of vinegar and 2 ounces of Peru balsam.

Crême de Vinaigre.

Take—

Essence of bergamot, 1½ ounce.
" lemon, 1 ounce.
" neroli, 4 ounces.
" roses, 2 ounces.
Oil of nutmeg, 2 drs.
" cloves, 1 dr.
Storax, 2 drs.
Vanilla, 2 pieces.
Benzoin, 2 drs.
Alcohol 36°, 2 lbs.
Acetic acid, 5 qts.

Mix the whole with alcohol; digest two days; distil over a water-bath, and to the distillate add the acetic acid.

Vinaigre de Cologne.

Add 1 ounce of very strong acetic acid to every quart of Cologne water.

Vinaigre de Millefleurs, de Bouquet.

To 2 parts acetic acid add one part of alcohol, in which has been dissolved ½ dr. essence *melisse*, and as much essence of vanilla, a few drops essence of bigarade and myrtle, and ½ dr. essence of rose.

Vinaigre de Thyme à la Rose.

To—

Distilled vinegar of thyme, 30 qts.

Add—

Vinegar à la rose, 30 qts.

Vinaigre à l'Orange.

Mix together—

Neroli, 2 ounces.
Alcohol à l'orange at 90°, 2 lbs.
Good wood vinegar, 8 lbs.

Vinaigre de Fleurs de Cedrat, de Bergamote.

Operate as with the above.

Vinaigre au Girofle.

Take—

2 drs. essential oil of clove.
These dissolve in 8 ounces of alcohol.

Mix with 1 lb. of strong vinegar.

Vinaigre à la Canelle

Is prepared like the above.

Vinegar of Aromatic Labies Plants.

Dissolve 1 dr. essential oil of the plant in 4 ounces of alcohol at 36°, and add 8 ounces of good vinegar.

Vinaigre de Fleurs de tous Genres.

Take—

White distilled vinegar, 6 qts.

Dissolve in 4 ounces of alcohol 2 drs. of essence of rose; shake the liquor, and leave it three days, stirring several times. Afterwards pour it into the vinegar; shake well; leave four days, and then filter.

Vinaigre de Flore.

Mix equal parts of—

Vinaigre à la rose.
" virginal.
" à la fleur d'orange.

Shake well, and filter.

Vinaigre à la Rose.

Take—

Alcohol at 85°, 2 qts.
Essence of geranium, 4½ drs.
" rose, 1 dr.
" tincture of benzoin, ¼ dr.
Vinegar at 8°, 3½ ounces.
Powdered cochineal, 1¼ dr.

Mix, macerate forty-eight hours, and then filter.

Vinaigre au Citron.

Take—

Alcohol at 85°, 2 qts.
Essence of lemon, 2 ounces.
Tincture of benzoin, ½ dr.
Wood vinegar, 3½ ounces.
Saffron, ½ dr.

Operate as with the above.

Vinaigre au Portugal.

Take—

Alcohol at 85°, 2 qts.
Essence de Portugal, 2½ ounces.
Tincture of benzoin, ½ dr.
Wood vinegar at 8°, 3¼ ounces.
Saffron, ¼ dr.

Vinaigre au Geranium.

Take—

Alcohol at 85°, 2 qts.
Essence de geranium, 1 ounce.
Tincture of benzoin, 1¼ dr.
Wood vinegar, 3¼ ounces.

Vinaigre de Toilette Hygiènique Superfin.

Take—

Alcohol at 85°, 18 qts.
Infusion of orris, 1 pt.
" tonka, 1 pt.
Extract of ambered melisse, 1 pt.
Tincture of benzoin, 1 pt.
Essence of lemon (pressed), 1⅔ ounce.
" bergamot, 1⅔ ounce.
" Portugal, 6 drs.
" lavender, 5 drs.
" clove, 2½ drs.
" peppermint, 1¼ dr.
Canella, ½ dr.
Wood acetic acid at 8°, 2 lbs.

Mix, stirring well; leave it to settle four days, and filter through paper.

Teinture de Benzoin.

Take—

Alcohol at 90°, 2 qts.
Powdered benzoin, 1 lb.

Macerate eight days, stirring several times during the day, and then filter.

Vinaigre de Fèves de Tonqua.

Take—

Alcohol at 90°, 2 qts.
Tonka beans in powder, 1 lb.

Operate as with the above.

Infusion of Orris.

Take—

Alcohol at 90°, 2 qts.
Powdered orris root, 1 lb.

Operate as with the above.

Infusion of Melisse.

Take—

Alcohol at 90°, 5 qts.
Melisse, 2 lbs.

After an infusion of eight days, distil over the water-bath, to extract 4½ qts.; add 1¼ dr. of gray amber; dissolve in 3½ ounces of alcohol at 85°.

Vinaigre Aromatique Hygiènique.

Take—

Essence of canella, ½ dr.
" clove, ½ dr.
" nutmeg, ¼ dr.
" neroli, 1 dr.
" rose, ½ dr.

Tincture of Tolu, 1 qt.
" benzoin, 1 qt.
" storax, 2 qts.
Infusion of orris, 1 qt.
Alcohol at 85°, 3 qts.
Strong vinegar, 1½ qt.
Acetic acid, 1 lb.

Vinaigre de Toilette de Mr. A. Lormé.

Take—

Alcohol at 85°, 5 qts.
Wood vinegar at 8°, 1 lb.
Orange flower water, 10 ounces.
Rose water, 6½ ounces.

Mix the above substances together, except the alcohol, and infuse in the mixture the following substances:—

Wormwood, 6½ ounces.
Root impératoire, 6½ ounces.
Ambroisie in leaves, 6½ ounces.
Flowers of canella, 6½ ounces.

After fifteen days or one month of infusion, pass through a cloth, and mix with the alcohol, in which have previously been dissolved the following substances:—

Essence of lavender, 1 ounce.
" lemon, 2 ounces.
Tincture of canella, 6½ ounces.
" clove, 6½ ounces.
" benzoin, 2 ounces.
Spirit of melisse, 2 lbs.
Tincture of balsam of Tolu, 2 ounces.

To color this liquid, add a few drs. of turmeric or orkanet. Mix well the liquors together, and after eight days of infusion, pass it through paper.

Vinaigre de Toilette Anglais.

Take—

Pure acetic acid at 8°, 3½ ounces.
Powdered camphor, 4 ounces.
Essence of lavender, ½ dr.
" clove, 1 dr.
" canella, ½ dr.
Cochineal, 1¼ dr.

Mix the whole together, and leave it to stand for a few days, when filter. Then put it in pocket vials, containing granular sulphate of potash.

Vinaigre Hygiènique for Whiskers.

Take—

Alcohol at 85°, 4 qts.
Powdered benzoin, 2 ounces.
Balsam of Tolu, 1 ounce.
Powdered orris, 2 ounces.
Tonka beans, 10 drs.
Essence of lemon, 5 drs.
" canella, 2½ drs.
" clove, 2½ drs.
" lavender, 2½ drs.
Wood vinegar at 8°, 13½ ounces.

Mix the whole together and leave it fifteen days to infuse; pass through a cloth, and then filter through paper.

Vinaigre Oriental.

Take—

White ambered lavender, 20 qts.
Essence of lemon, 16 lbs.
" vervain, 5 lbs.
Infusion of benzoin, 2 qts.

Infuse thirty days.

Take afterwards—

From the above liquid, 15 qts.
Pure acetic acid, 2 qts.

Color green, shake, and filter.

CHAPTER LXXIX.

VINEGARETTED EXTRACTS.

Extrait de Vinaigre à l'Œillet.

DISSOLVE in a little alcohol ½ an ounce extract of œillet, and add this mixture to one quart of clove vinegar.

Extrait de Vinaigre de Jasmin.

Take—

Vinegar, 60 qts.
Orange flowers, 4 lbs.

Distil, and draw off 30 quarts, to which add spirit of jasmine, 1 ounce to the quart.

Extrait de Vinaigre à la Vanille.

Take—

Powdered vanilla, 6 oz.
Alcohol at 36°, 2 lbs.
Vinegar, 8 lbs.

Infuse the vanilla for eight days in the alcohol, add the vinegar, and distil over a sand-bath. To the vinegar which comes over, pour in ½ an ounce of strong essence of vanilla.

Extrait de Vinaigre à la Tubéreuse.

Infuse together—

Vinegar, 30 qts.
Tuberose, 2 lbs.

Distil, and draw off fifteen quarts.

That done, add to the product 12 oz. of strongly perfumed spirit of tuberose.

Extrait de Vinaigre Citronné à la Verveine.

Fill a demijohn three-quarters full with vinegar, and add the remaining fourth of dry leaves of citronella and vervain; cork the vessel, and place it in a warm room for several days, shaking occasionally. Decant thrice, and each time add half as much fresh leaves, and macerate as before. Decant, and let it stand eight days, and then filter. By adding to 4 quarts of this vinegar 1 quart of spirituous water of lavender, in which are dissolved 2 drs. essence of bergamot and 2 drs. essence of meliss the extract is obtained.

CHAPTER LXXX.

VINEGARS PROMOTIVE OF HEALTH.

Vinaigre Aromatique de Bully.

Take—

Water, 7 qts.
Alcohol, 4 qts.
Essence of bergamot, ½ ounce.
" lemon, 1 ounce.
" Portugal, 3 drs.

Essence of rosemary, 6 drs.
" lavender, 1 dr.
" neroli, 1 dr.
Spirit of melisse, 1 pint.

Stir from time to time, and after twenty-four hours add—

Tincture of benzoin, 2 ounces.
" Tolu, 2 ounces.
" storax, 2 ounces.
Spirit of clove, 3½ ounces.

Shake, and then add—

Distilled vinegar, 2 qts.

Filter after twelve hours, and add again—

Acetic acid, 3 ounces.

Vinaigre Aromatique et Salubre.

Take—

Leaves of lavender,
" thyme,
" serpolet,
" rosemary,
" citronella,
" angelica,
" savory,
" mint,
" marjoram,
" sage,
" house-leek,
" vervain,
" white horehound,
" hyssop,
" wormwood,
" balm,

Leaves of pimpernel,
" herb dragon,
" sweet basil, a handful of each.

Add to the above, a garlic, 6 cloves, 1 oz. cinnamon, 1 oz. salt; bruise, and mix thoroughly together. Infuse one month in 12 lbs. of vinegar. Steam, press out, and filter.

Vinaigre des Quatre Voleurs. (By M. Nergues.)

Take—

Cinnamon, 3 ounces.
Cloves, 3 ounces.
Mace, 3 ounces.
Nutmeg, 3 ounces.
Camphor, 3 ounces.
Garlic, 2 ounces.
Essential oil of absinthe, 2 scruples.
" rosemary, 2 scruples.
" rue, 2 scruples.
" sage, 2 scruples.
" mint, 2 scruples.
" lavender, 2 scruples.
Acetic acid, 2 lbs.
Vinegar, 2 qts.

Bruise the materials, and macerate them for eight days; strain, press, and filter.

Another Process. (By M. Laugier.)

Take—

Vinegar, 200 qts.
Dry rosemary, 1½ lb.
Fresh sage, 1½ lb.

Mint, 1½ lb.
Rue, 1½ lb.
Lavender flowers, 1½ lb.
Calamus, 1½ lb.
Cinnamon, 1½ lb.
Garlic, 1½ lb.
Absinthium, 12 lbs.

Distil the vinegar upon the unbruised materials, and redistil the product upon the same quantities of new material, which this time must be pulverized.

Run off 25 quarts, in which dissolve by heat a pound of camphor, and to the solution add 25 pounds of cloves.

Vinaigre Camphré.

Take—

Camphor, 6 drs.
Alcohol, 2 ounces.
Strong vinegar, 1 lb.

Powder the camphor in a mortar, add the alcohol, and afterwards mix the solution with the vinegar.

Vinaigre des Quatre Voleurs.

Take—

Tops of cress, 2 oz.
Wormwood, 2 oz.
Citronella, 2 oz.
Sage, 2 oz.
Mint, 2 oz.
Rue, 2 oz.
Lavender flowers, 2 oz.
Tops of thyme, 2 oz.
Garlic, 2 drs.

Acorus calamus root, 2 drs.
Canella, 2 drs.
Cloves, 2 drs.
Nutmeg, 2 drs.
Vinegar, 8½ qts.
Camphor dissolved in alcohol and acetic acid, ½ ounce.

Macerate three weeks in a demijohn in a warm place. Pass through a cloth, and filter through paper; add the dissolved camphor, and mix well.

Vinaigre Camphré de Spielman.

Take—

Camphor, ½ ounce.
Alcohol, 1 ounce.
Strong vinegar, 5 pints.

Dissolve the camphor in alcohol, and add the solution to the vinegar.

CHAPTER LXXXI.

MISCELLANEOUS VINEGARS.

Vinaigre Romain au Vinaigre Dentifrice.

Mix—

Distilled vinegar, 1 qt.
Powdered cream tartar, 2 drs.
Spirit of pyrethre, 1 ounce.

Vinaigre Colchique for the Voice.

Take—

Colchicum root, 1 ounce.
Red vinegar, 1 ounce.

Wash the fresh root, cut it into slices, and digest with vinegar at a gentle heat, for two days; pass through a cloth; filter, and keep in well-closed bottles.

Vinaigre Double Astringent with Pomegranate.

Take equal parts of—

Alum,
Dragon's blood,
Gum acacia juice,
Plantain leaves,
Tormentilla,
Flowers and fruit of grenade,
Rose leaves.

Boil in vinegar, pass through a cloth; give a grenade color with a sufficient quantity of an alcoholic tincture of dragon's blood.

Vinaigre Styptique.

In a quart of vinegar boil a handful of myrtle leaves, and as much of oak leaves; strain, filter, and mix the liquor with a pint of deeply-colored rose vinegar.

Vinaigre Astringent.

In two quarts of strong vinegar boil three gall-nuts, a handful of sumac leaves, some young strawberry shoots, and four cloves. Strain, and perfume with a little essence of cloves.

Vinaigre Scillitique for the Voice.

Take—

Dried squills, 1 lb.
Good vinegar, 12 lbs.
Alcohol, ½ lb.

Macerate two weeks in a close vessel, press out, and filter. Put five or six drops of the preparation in a glass of warm water, and gargle three times on the day on which the voice is to be used.

Vinaigre Colchique à la Rose.

Take—

Vinegar at 3°, 12 ounces.
Colchicum root, 3 ounces.
Alcohol, 6 drs.

Infuse the divided colchicum for eight days in the vinegar. Express, and then add the alcohol.

Vinaigre Resolutif et Fondant.

Mix together equal parts of nitrate of mercury and vinegar, colored red with alkanet. Apply this vinegar with a small camel's-hair pencil, avoiding a metallic tool.

Vinaigre Alcoholique for Fits and Swoons.

Mix together equal parts of concentrated vinegar and alcohol, at 36°, and to increase its strength, add 2 drops of ether to the quart.

Vinaigre de Millepertuis for the removal of Rouge.

Take 1 quart of vinegar; infuse 1 oz. of fresh flowers of St. Johnswort, freed from their calices. Digest one week, strain, filter, and add to the clear liquor an ounce of alcoholic tincture of Tolu balsam. To use, dilute with half water.

CHAPTER LXXXII.

ESSENTIAL SALTS OF VINEGAR.

UNDER this head we give receipts for *aromatic vinegaretted spirits*, and a list of essences with which the *essential salt of vinegar*, as it is called, is generally perfumed. This salt is nothing more than sulphate of potash, which being deposited in the glass flagons, is then saturated with acetic acid, and perfumed with fifty or sixty drops of some essence.

Vinaigre Anglais.

Take—

Concentrated acetic acid, 8 ounces.
Essence of amber, 1½ dr.
" lavender, 2 drs.
" rosemary, 1 dr.
Japan balsam, 24 drops.
Camphor, 1 dr.

Dissolve the camphor in the acetic acid, add the essences and balsam; digest for eight days, and then filter.

Another Process.

Take—

Wood vinegar at 8°, 2 lbs.
Powdered camphor, 4 ounces.
Essence of lavender, ½ dr.
“ clove, 1 dr.
“ canella, ½ dr.
“ cochineal, 1¼ dr.

Vinaigre Radical Aromatique.

Take—

Garlic, 2 ounces.
Camphor, 1 dr.
Volatile oil of absinthe, 2 drs.
“ “ mint, 2 drs.
“ “ rue, 2 drs.
“ “ lavender, 2 drs.
“ “ sage, 2 drs.
“ “ clove, 2 drs.
Acetic acid, 12 drops.

Prepare as the vinegar of the quatre voleurs.

Sel Volatil Aromatique Anglais.

Take carbonate of ammonia in small pieces, and to every ounce add—

60 or 80 drops of essence of lemon.
10 “ “ cloves.
10 “ “ cinnamon.

Essences employed for Perfuming the Sel Volatil de Vinaigre.

Essences of roses,
" bergamot,
" limette,
" lemon,
" cedrat,
" benzoin,
" Portugal,
" lavender,
" rosemary,
" balm,
" melisse à la rose,
" myrtle,
" vanilla,
" lavender.

SECTION XIV.

PHARMACEUTICAL PREPARATIONS MADE BY THE PERFUMER.

This limited branch of the perfumer's art comprises, 1st, vulnerary waters, cachou, and pastils, for disinfecting the breath.

CHAPTER LXXXIII.

VULNERARY AND STOMACHIC WATERS.

Eau de Melisse des Carmes.

Take tops of fresh melisse 2 lbs., fill a jug with them, and pour on them brandy at 60°. Cover the jug, macerate for four days; distil over a water-bath.

Prepare in the same manner—

The alcoholates of fresh sage.
" angelica.
" hyssop.
" marjolaine.
" rosemary.
" thyme.

In another vessel, macerate two days—

Fine canella.
Brandy at 60°.

Distil over a water-bath, and prepare in the equal proportion the alcoholates of coriander, cloves, nutmegs, anis, and dry lemon-peel; distil together, mix, and keep it.

To prepare the eau de melisse—

1st. Take—

Alcoholates of sage, 7 qts.
“ angelica, 5 qts.
“ hyssop, 4 qts.
“ marjolaine, 3¾ qts.
“ rosemary, 2¼ qts.
“ thyme, 3 qts.

Mix the above, and keep separate.

2d. Take—

Alcoholates of canella, 7 qts.
“ coriander, 7 qts.
“ clove,
“ nutmeg, of each, 4 to 6 qts.
“ anis, 4 qts.
“ lemon, 1 pt.

Keep this mixture separate.

3d. Keep separate the alcoholate of melisse, then take—

From the mixture of the alcoholate, No. 1, 5 qts.
“ “ “ No. 2, 5 qts.
“ “ “ No. 3, 5 qts.

Mix, and add to this general mixture—

Pure water, 1 qt.
Powdered sugar, a few drachms.

Distil over a water-bath, to obtain 13½ quarts.

Eau de Melisse des Carmes Reformée, another Process.

Take—

New melisse in flowers, 13¼ ounces.
Angelica, 2¼ ounces.
Hyssop, 1½ ounce.
Marjolaine, 1½ ounce.
Thyme, 1⅔ ounce.
Rosemary, 1¼ ounce.
Canella, 1½ ounce.
Coriander, 1½ ounce.
Clove, 1¼ ounce.
Nutmeg, 1¼ ounce.
Anis, ½ ounce.
Lemon-peel, 1 ounce.
Alcohol at 22°, 9 lbs.

Another Process.

Take—

Leaves and flowers of melisse, 6 lbs.
Citronella, 8 ounces.
Angelica, 4 ounces.
Lavender, ½ ounce.
Holy thistle, 8 ounces.
Canella, 2 ounces.
Cloves, 2 ounces.
Mace, 4 ounces.
Badiane, 4 ounces.
Coriander, 4 ounces.

Pulverize the spices, add the melisse, and other aromatics. Infuse six or seven days in 25 quarts of spirit, and 6 quarts of water. Distil.

Eau de Melisse d'Hiver.

Infuse in 24 quarts of spirit, and 6 quarts of water—

Zestes of lemon, 4 lbs.
Canella, 4 ounces.
Coriander, 8 ounces.
Nutmeg, 4 ounces.
Clove, 4 ounces.
Angelica seed, 2 ounces.
Carvi seeds, 2 ounces.

Operate as in the above.

Eau de Melisse.

Take—

Fresh flowers of melisse, 7 lbs.
Fresh tops of hyssop, 4 ounces.
" marjolaine, 4 ounces.
" rosemary, 4 ounces.
" sage, 4 ounces.
" thyme, 4 ounces.
Angelica root, 4 ounces.
Coriander, 4 ounces.
Canella, 2 ounces.
Clove, 2 ounces.
Mace, ½ ounce.
Nutmegs, 1½ ounce.
Fresh lemon-peels, 10.
Alcohol at 85°, 11 qts.

Infuse three days, distil over a water-bath, in adding 10 quarts of water; rectify, and extract 10 quarts of good product.

Eau de Melisse Supérieure à elle des Carmes.

Take—

- Fresh flowers of melisse, 1½ lb.
- Fresh lemon-peel, 4 ounces.
- Canella, 2 ounces.
- Clove, 2 ounces.
- Nutmeg, 2 ounces.
- Coriander, 2 ounces.
- Angelica root, 1 ounce.
- Peppermint water, 1 ounce.

Macerate four to five days in 4 quarts of alcohol; distil all the spirituous part.

Eau Vulneraire, Simple and Double.

Take a handful of each of the following:—

- Sage leaves.
- Angelica.
- Wormwood.
- Serpolet.
- Savory.
- Fennel.
- Hyssop.
- Vervain.
- Balm.
- Sweet basil.
- Rue.
- Lavender.
- Thyme.
- Marjoram.
- Rosemary.

Infuse eight or ten days in 6 quarts of alcohol at 25°.

Then inclose them in a bag, in order to prevent their adherence to the bottom of the still, and conclude as for the eau de melisse.

Eau d'Arquebusade de Lauzanne.

This water is renowned for its efficacy in cuts and contusions. It is more conveniently made in summer, when its ingredients are most readily procured. For 24 quarts take—

Wormwood, 5 lbs.
Comfrey, all the plant, 1 lb.
Mugwort, 1 lb.
Bugloss, sage, and betony, each, 1 lb.
Ox eye and saucile, each, 1 lb.
Blind nettle and Easter daisy, each, 1 lb.
Plantain, vervain, of each, 1 lb.
Fennel, veronica, St. Johnswort, each, ½ lb.
Pilosella, hyssop, rosemary, each, ½ lb.
Long hardwort, dwarf centaury, ½ lb.
Milfoil, mint, tobacco, ½ lb.
Marjoram, thyme, chamomile, ½ lb.
Sweet basil, angelica root, and bark, ½ lb.
Balm, ¼ lb.

Bruise these plants, and infuse them three days in 24 quarts of alcohol, and 6 quarts of water. Distil, and run off the water.

Eau de la Reine de Hongrie.

This water is composed thus:—

In 6 quarts of spirit infuse for three days—

Tops and flowers of rosemary, 1½ lb.
Rose leaves, ½ lb.
Orange flowers, ¼ lb.
Barberry, ¼ lb.

Filter, and add a quart of rose water. To render it more agreeable, add 1 quart of orange water, and distil over a water-bath.

Eau fine de la Reine de Hongrie.

In 6 quarts of alcohol at 85°, dissolve—

Best essence of rosemary, 1½ ounce.
Essence of neroli, 3 to 4 drops.

Reduce the liquid with orange flower water, so as to have it mark 28 to 30°.

Eau de Luce.

First prepare the following tincture—

Black soap, 2 drs.
Mecca balsam, 2 drs.
Rectified oil of amber, 1 ounce.
Alcohol, 12 ounces.

Macerate two weeks, and filter.

To prepare the water, take—

Ammonia water at 22°, 1 ounce.
Distilled water, 1 ounce.

Shake well, and add a few drops of the above tincture.

Eau de Botot.

Take—

Brandy at 50°, 10 qts.
Anis, 10 ounces.
Clove, 2⅔ ounces.
Canella, 2⅔ ounces.
Cochineal, 1 ounce.
Essence of mint, 1⅔ ounce.
Tincture of amber, 1 ounce.

Infuse one month. Filter, and add the essence of mint.

Another Process.

Take—

Alcohol at 80°, 10 qts.
Clove, 2⅛ ounces.
Canella, 2⅛ ounces.
Badiane, 2⅛ ounces.
Cochineal, 1 ounce.
Cream tartar, 1 ounce.
Essence of mint, 1 ounce.

Infuse one month, and filter.

Another Process.

Take—

Cloves, 2 drs.
Canella, 2 drs.
Anis, 1 ounce.
Cochineal, 2½ drs.
Brandy at 50°, 29 ounces.

Macerate fifteen days, filter, and add—

Essence of mint, 1¼ dr.

Another Process.

Take—

Green anis, 10 ounces.
Canella, 3½ ounces.
Clove, 3½ ounces.
Essence of mint, 1 ounce.
Cochineal, 1 ounce.
Cream tartar, 1 ounce.
Alum, 1¼ dr.
Alcohol at 90°, 10 qts.

Infuse fifteen days, add the essence of mint, shake, leave eight days, and filter again.

Eau Dentifrice Supérieure de A. Lormé.

Take—

Brandy at 21°, 1 qt.
Citric acid, 1¼ dr.
Powdered cochineal, ½ dr.
Essence of peppermint, 2½ drs.

Filter, after two days' maceration.

Eau des Jacobins de Rouen.

Take—

Canella, 2 ounces.
Yellow saunders, 2 ounces.
Red saunders, 1½ ounce.
Green anis, 1½ ounce.
Juniper berries, 1½ ounce.
Angelica seeds, 6 drs.
Galanga, ½ ounce.
Aloes wood, ½ ounce.
Cloves, ½ ounce.
Mace, ½ ounce.
Cochineal, 6 drs.
Alcohol at 85°, 10 qts.

Infuse one month, and filter.

Esprit de Menthe, No. 1.

Take—

Pure alcohol at 90°, 1 qt.
Essence of peppermint, 4 ounces.

Filter after twenty-four hours.

Esprit de Menthe, No. 2.

Take—

Alcohol at 85°, 1 qt.
Crystals of soda, $1\frac{1}{4}$ dr.
Essence of peppermint, 1 ounce.

Alcohol Camphré.

Take—

Camphor, $2\frac{1}{2}$ lbs.
Alcohol at 85°, 10 qts.

Dissolve, and filter.

Eau de Vie Camphré.

Take—

Camphor, 10 ounces.
Alcohol at 85°, 6 qts.
Water, 4 qts.

Dissolve the camphor in alcohol, add the water, and filter.

CHAPTER LXXXIV.

PASTILLES FOR DISINFECTING THE BREATH—CACHOU.

The pastils of *cachou* have the property of perfuming the breath, but they do not disinfect it. The following recipes are extracts from Chevalier's work upon *Charcoal.*

Pâte de Cachoudé.

This paste, which gives a sweet taste, is obtained by triturating together equal parts of *cachou calamus*, and a kind of talc.

Cachou à la Violette.

Take—

Powdered cachou, 4 oz.
" orris, 12 grs.
Sugar, 1½ lb.

Make the whole into a mucilage with 4 drs. gum tragacanth in water, and add a few drops extract of acacia or violet.

Previously reduce some liquorice to a paste with a little mucilage; mix in the sugar and cachou, and triturate until the mass is homogeneous; then divide it into small pieces, the size and form of oats, and box up.

Cachou à la Rose.

Take—

Powdered cachou, 4 ounces.
Sugar, 1½ lb.

Arrange this mixture in alternate layers with rose leaves, continuing the contact twenty-four hours, stirring two or three times. Sieve, repeat the operation with fresh flowers, three or four times. Then make the whole into a paste with a solution of gum in rose water, 1 drop of the essence of amber, and as much essence of musk. Form into granules as before.

Cachou à la Vanille.

Take—

Powdered cachou, 4 oz.
Sugar, 1½ lb.
Vanilla, 1½ ounce.

Triturate the vanilla in a marble mortar with the cachou and the sugar, until perfectly reduced. Mix the whole into a paste with mucilage of gum and rose water, to which a few drops essence of amber and vanilla have been added.

Cachou Inodore.

Take—

Powdered cachou.
White sugar.
Gum tragacanth.
Water.

Mix, as before directed.

Cachou à la Fleur d'Oranger.

Take—

Powdered cachou, 4 oz.
Sugar, 1½ lb.

Operate exactly the same as for the cachou à la rose.

Cachou à la Cannelle.

Take—

Powdered cachou, 4 ounces.
Sugar, 1½ lb.
Essential oil of canella, a few drops.

Cachou à l'Ambre gris.

Take—

Cachou, 4 ounces.
Sugar, 1½ lb.
Gray amber, a few drops of essence.

Pastils for Bad Breath.

Take—

Chocolate, 3 ounces.
Charcoal, 1 ounce.
Sugar, 1 ounce.
Vanilla, 1 ounce.
Mucilage, q. s.

Make into lozenges of five grains, and take four to five daily.

Preparation for Bad Breath.

Mr. Chevalier furnishes the following recipe:—

Dry chloride of lime, 3 drs.
Distilled water, 2 ounces.

Powder the chloride of lime in a glass mortar, and then add a part of the distilled water, stir up, and let it stand for some minutes. When settled, decant the clear liquor. Add an additional quantity of water to the residue; triturate, and after sufficient rest, again draw the clear liquor. Wash several times, add the clear solutions, and filter. To the liquid running through, add 2 ounces of alcohol, in which 4 drops oil of rose and 4 drops of any other desired oil are dissolved.

The dose is half a tablespoonful in a tumbler of water, with which the gums are moistened daily, by means of a sponge.

Pastils for Bad Breath.

Take—

Chloride of lime, 5 drs.
Vanilla candy, 3 drs.
Gum Arabic, 5 drs.

Make the lozenges into weight of ten to fifteen grains, and take one or two after smoking.

Pastils Blanches for the same Object.

Take—

Chloride of lime, 19 grs.
Powdered sugar, 1 ounce.
Gum tragacanth, 16 grs.
Perfumed essential oil, 2 drops.

Operate as above.

Pastils to remove Bad Breath

Take—

Dry chloride of lime, 2 drs.
Sugar, 8 ounces.
Starch, 1 ounce.
Gum tragacanth, 2 drs.
Carmine, 16 grs.

Reduce to powder, and form pastils of about sixteen grains.

CHAPTER LXXXV.

LOTIONS.

Lotion Astringente.

Take—

Water of plantain, $3\frac{1}{2}$ ounces.
Tannin, $1\frac{1}{4}$ gr.
Aromatic tincture, 1 ounce.

Rub the tannin with a little of the aromatic tincture; pour on the water by degrees, and when all is dissolved, pass through a cloth.

Lotion à la Glycerin.

Take—

Orange flowers water, 5 qts.
Pure glycerine, 1 ounce.
Borate of soda, 1 dr.

Eau to Blacken the Hair.

Take—

Distilled water, 10 ounces.
Nitrate of silver, $1\frac{1}{4}$ ounce.
Green to color, $\frac{1}{4}$ dr.

Eau Armoricaine.

Take—

Pure silver, 1 ounce.
Nitric acid, at 36°, $2\frac{1}{4}$ ounces.

Put the silver into a matrass placed over a sand-bath heated by a little furnace; add the acid by degrees, and heat slightly. The silver is attacked and dissolved by the acid. When the dissolution is complete, evaporate the excess of acid, and pour the liquor in 2½ quarts of distilled water; filter through papers, and keep in bottles made of black glass.

Water for the Preservation of the Hair.

Take—

Alcohol at 90°, 10 qts.
Essence of Portugal, 8 ounces.
Saponified essence, 7½ grs.

Dissolve the essence in alcohol; macerate fifteen days; add the saponified essence; shake, and filter.

Lotion for the Hair.

Take—

Liquid ammonia, 1 dr.
Oil of sweet almonds, 1 dr.
Spirit of roses, 1 ounce.
Essence of mace, ½ dr.
Rose water, 1¼ dr.

Mix the oil and ammonia; add the essence of mace and spirit of rose; stir with the oil and ammonia, and add the rose water by degrees.

Lotion for the Hair. (By the Editor.)

Take—

Pure castor oil, 4 ounces.
Rectified alcohol, 4 ounces.
Rhum, 12 ounces.
Essence of rose or lavender, a few drops.

Dissolve the castor oil in the alcohol; shake, add the rhum; shake, and perfume with a few drops of essence of roses or lavender.

SECTION XV.

TOILET SOAPS.

THIS is one of the most important branches of the perfumer's art. The greases employed must be of the first quality, and perfectly pure, and the salts of soda used in their preparation ought to be very white, with a high alkalimetric degree, and perfectly free from sulphurets.

The greases used in the preparation of these soaps are: lard, beef suet, and mutton tallow, palm, and cocoa oils. This last renders the soaps more foaming.

There exist in the trade many varieties of toilet soaps—white, marbled, yellow, brown, rose, etc. Except the yellow color which is furnished by the saponification of palm oil, all other shades are produced by foreign substances incorporated into the paste.

Toilet soaps are of two kinds, *hard* or *soft*, according to the nature of the alkali used in preparing them. Hard soaps have soda for bases, while soft soaps are made with potash. These last are more generally known by the name of soap cream. They are used for shaving, and for baths.

The difference existing between toilet soaps and ordinary hard soap consists only in this, that the first must be completely deprived of an excess of alkali. They are generally very hydrated, *i. e.*, that at equal weights they contain more water than ordinary soaps.

We begin by the fabrication of white soap made with lard, tallow, and the addition of five to ten per cent. of cocoa oil.

CHAPTER LXXXVI.

WHITE SOAP OF LARD.

The white soap of first quality is prepared with lard, and is finer, according to the quality and whiteness of the grease. In treating of the preparation of pomades, we have indicated the process for purifying lard. The operation is the same for the lard used to manufacture these soaps.

The grease thus purified can be kept a long time without alteration, and forms the principal base of toilet soaps.

§ 1. *Empatage—Paste Operation.*

In the fabrication of toilet soaps, five or ten per cent. of cocoa oil is generally mixed with the grease. This addition renders the soap softer and more foaming. To prepare a white soap of first quality, take—

Lard, 1080 lbs.
Cocoa oil, 120 lbs.

Put these substances into a sheet-iron kettle, of a capacity of 500 to 625 gallons. When all is ready, light the fire and melt the greases; reduce them to paste with new soda lye at 8 or 10°. The quantity of lye varies between 40 to 60 quarts for every 200 lbs. of grease, or in mean, 300 quarts for the 1200 lbs. The mixture must be stirred all the time the lye is being added. You ascertain that the alkali combines with the grease, by the opalescent and homogeneous appearance of the paste, and the absence of lye in the bottom of the kettle, and oily parts on the surface. When these characteristics indicate that the combination is perfect, gradually heat the mixture nearly to the boiling point, and keep it at this temperature for three or four hours, stirring all the time.

Then add to the paste 100 quarts of lye at 15°, and boil moderately. After an ebullition of three to four hours; pour into the kettle 200 quarts of new lye at 20°. Stop the heat, and stir the mixture for about three-quarters of an hour. The operation is then complete.

§ 2. *Separation.*

The object of this operation is to separate the soap from the aqueous lyes, in the middle of which it has been formed. For this purpose, one workman stirs the paste from the bottom to the top, while another pours in perfectly limpid lye, from 20 to 25°. The lye must be poured first in small quantity, but when the soap begins to abandon the lye of the first paste operation and forms grains, the quantity can be increased. The operation must be continued till all the soap is in grains, and completely separated from the lye. Cover the kettle, leave it to rest six hours, and draw off the lye.

If the first operation has been well done, the separation can be made with 200 quarts of lye at 25°. If you have not the proper lye, use a lye of salt of soda, keeping in dissolution a large proportion of salt. For this purpose, dissolve 40 lbs. of salt in 200 qts. of new lye, at 15°.

§ 3. *Coction.*

The object of this operation is to completely saturate the fat acids with the caustic alkalies. It is generally performed in two operations.

1*st operation.*—Pour into the kettle 300 quarts of lye at 15 or 18°. Light the fire, and heat by degrees, till the mass begins to boil; there forms on the surface a scum, and it is to avoid its great expansion that the fire must be very moderate.

After a few hours of gentle ebullition, increase the heat, and boil six to eight hours, adding every hour 12 to 15 quarts of new lye at 20 or 25°.

When the lye has lost its causticity, stop the fire, leave to settle a few hours, and draw off the lye.

2*d operation.*—This operation is done with caustic lyes, marking from 25 to 28°. For this object, pour into the kettle 250 quarts of new lye at 25 or 28°. Light the fire, and it will very soon boil. Scum appears, which is perceptible until the operation is nearly completed. Continue to boil, stirring from time to time, and every hour add from 15 to 20 quarts of lye at 25 or 28°, for twelve hours.

When the soap is finished, stop the heat, leave to settle a few hours, and draw off the lye.

§ 4. *Liquidation.*

In the kettle pour 400 quarts of lye of soda at 10°, and boil quickly, stirring from time to time. The soap softens, and is half liquefied. Boil gently a few hours; draw off the lye.

Pour into the kettle 200 quarts of lye at 5°, and boil gently, stirring from time to time. If the 200 quarts are not sufficient to liquefy, terminate the operation by adding by degrees lye at 2 or 3°.

The liquidation is complete when the paste has become fluid, and has acquired a gray shade.

Stop the fire, and stir quickly for five or six minutes.

Cover the kettle, and leave it to rest twelve hours. Take off the scum; and with a large dipper draw the soap into the frame.

The above quantities give:—

Scum soap, from 100 to 120 lbs.
Pure soap, " 1600 to 1700 lbs.
Impure soap, from 200 to 300 lbs.

After eight or ten days, take out the soap, which is very white, and firm enough. In such a state, it forms the base of the white and red toilet soaps.

CHAPTER LXXXVII.

SOAP OF TALLOW.

The melted tallow is the best for the fabrication of soap. Unfortunately, that found in the trade has not generally been prepared properly. It differs in quality, purity, and whiteness. The best advice we can give to a manufacturer is to melt his tallow himself, and purify it as we have indicated in the preparation of tallow.

1. *Empatage.*

We suppose a saponification of 1200 lbs. of grease of which 1080 lbs. is tallow, and 120 is cocoa oil. The operation is done in a kettle of the same capacity as the above. In the kettle, one-quarter full of lye at 6 to 8°, and heated to ebullition, introduce by degrees the 1200 lbs. of grease, stirring the mixture all the time.

After an ebullition of four or five hours, and when the paste is perfectly homogeneous, introduce by degrees 150 quarts of lye at 12 or 15°, and continue to boil for two or three hours.

Terminate the operation by the addition of 100 quarts of new lye, at 20 or 25°. This last portion must be introduced at the rate of 25 quarts every fifteen minutes. Boil one hour and a half to terminate.

2. *Separation.*

When the first operation is achieved, and the paste is homogeneous, pour by degrees into the kettle, colorless salted lye, at 25°, and stir all the time; and when the soap separates into grains, leave it to rest six or eight hours, and draw off the lye.

3. *Coction.*

1*st operation.*—Pour into the kettle 300 to 400 quarts of new lye at 15°, and boil gently for seven or eight hours, adding every hour a few pails of lye, at the same degree. Stop the heat, leave it to rest a few hours, and draw off the lye.

2*d operation.*—This is done with 300 quarts of new lye, at 20°. Boil at a gentle heat for ten hours, and add from time to time a few pails of strong lye. When the lye has lost all its causticity, take off the fire, and let it rest a few hours, then draw off the lye.

Terminate the coction by a third operation. Pour into the kettle 300 quarts of lye at 25°; boil strongly, and the lye will be again caustic after an ebullition of seven or eight hours.

Remove the fire, leave to rest, and draw off the lye.

4. *Liquidation.*

Pour into the kettle 300 quarts of new lye at 5 or 6°, light the fire, and stir all the time, till the soap presents itself in the form of little grains, half melted, in the lye. In this state boil gently for five or six hours, and complete the liquidation with lye at 2 or 3°.

When the operation is terminated, stop the fire, and cover the kettle. After eight to twelve hours of settlement, run the soap into the frame, being careful to remove the scum, and avoid taking the black soap which is at the bottom.

The 1200 lbs. of grease give—

Scum soap, 60 to 70 lbs.
Pure soap, 1680 to 1700 lbs.
Black soap, 260 to 320 lbs.

CHAPTER LXXXVIII.

PALM OIL SOAP.

Palm oil is much used alone for making ordinary soaps, but toilet soaps always require to have it mixed with from five to ten per cent. of cocoa oil.

To obtain the purest soap, the oil must be of first quality, with a fine golden-yellow color, and a strong smell of violet.

1. *Empatage.*

Take—

Palm oil	900 lbs.
Cocoa oil	100 "
	1000 lbs.

In a kettle of the capacity of about 500 to 600 gallons, pour 300 quarts of new lye at 12 or 15°. Heat it, and when it begins to boil, add the oils by degrees, stirring all the time; keep the mixture at a gentle ebullition for three or four hours, then begin to add lye at 20°, 25 quarts every half hour, for the space of three to four hours. When the quantity of lye at 20° has been used, terminate the paste operation by pouring into the kettle 50 to 60 quarts of lye at 25°, which incorporate by stirring ten minutes. Remove the fire, and separate.

2. *Separation.*

The separation is done in the same manner as with the other soaps, by pouring salted lye at 20 or 25°, into the kettle by degrees, and stirring all the time.

When the separation is effectual, the soap is in small grains, and the lye separates clear and limpid. Leave it to rest a few hours, when draw off the lye.

3. *Coction.*

Pour into the kettle 300 quarts of new lye at 28 to 30°, then light the fire. After three-quarters of an hour it will begin to boil, and the soap is covered with a foam which lasts from five to six hours. The soap is then in the form of large grains. Boil a few hours longer, and add a new portion of 40 to 50 quarts of lye at 28 or 30°. Stop the coction when the lye of the kettle, while cold, marks from 28 to 30°.

Stop the fire, leave it to settle a few hours, and draw off the lye.

4. *Liquidation.*

Pour into the kettle 300 quarts of new lye at 5 or 6°, and boil gently, stirring constantly. After a few hours' ebullition, the soap swims in the lye. Continue the liquidation, in adding 12 to 15 quarts of lye at 2 or 3° at a time, so as to obtain a perfect liquidation. This operation lasts about five or six hours, and takes generally from 200 to 250 quarts to bring the paste to a proper fluid state. Stop the fire, cover the kettle, and leave it to stand thirty-six hours. After this, when the soap is again fluid, run it into the frame, stirring it at the same time. Be careful before drawing it to remove the scum.

1000 lbs. of oil give—

Scum soap	60 to 70 lbs.
Pure yellow soap	1300 to 1400 lbs.
Black soap	160 to 200 lbs.

Two weeks after this soap is solid enough to be cut into bars or plates.

CHAPTER LXXXIX.

HALF-PALM OIL SOAP.

This soap is a mixture of palm oil and tallow, to which some cocoa oil is added, or a little rosin. The best proportions to use are the following:—

White tallow	1100 lbs.
Palm oil	300 lbs.
Cocoa oil	100 lbs.
Pure yellow rosin	100 lbs.

1. *Empatage.*

In a kettle of the capacity of 600 gallons, put the greases, and melt them; then pour over them 400 quarts of new lye, at 8 or 10°. Heat slowly and gradually, stirring from time to time. After an ebullition of three to four hours, pour on to the paste 150 to 200 quarts of new lye, at 15 or 18°; stir for a quarter of an hour, then boil three hours, or rather, till the paste is homogeneous. You can then add an additional quantity of 150 quarts of lye, at 20°. Boil two hours, and with this third lye the *empatage* is achieved.

2. *Separation.*

After a few hours' rest, pour into the kettle salted lye, at 20 or 25°, stirring all the time. When the soap is separated, leave it to rest five or six hours, and draw off the lye, which must mark 15 to 16° when cold.

3. *Coction.*

The coction of this soap is nearly similar to that of palm oil. It is done with new soda lye at 25 or 28°.

Pour into the kettle 600 to 700 quarts of new lye, at 25°, light the fire, and boil gently for three or four hours, then increase the heat, and after eight or ten hours of ebullition with the lye at 25°, the soap is completely boiled. Stop the fire, and leave it to rest a few hours, when draw off the lye, and proceed to the liquidation.

4. *Liquidation.*

1*st liquidation.*—When the lye used in the coction is entirely separated from the soap, pour into the kettle 400 quarts of new lye, at 8 or 9°, and heat slowly, till it reaches the boiling point, stirring all the time; when the grains of soap are softened, stop stirring, and boil five or six hours, if necessary, eight, pouring in from time to time a few pails of lye, at 2°.

When the soap is well separated, stop the heat, cover the kettle, leave it to rest six hours; transfer the soap into another kettle, and proceed to a second liquidation.

2d liquidation.—In the new kettle, pour 150 quarts of solution of crystals of soda, at 4 or 5°, and heat till near the point of boiling, and then pour in the soap very carefully.

Boil moderately for from four to five hours, stirring from time to time. The soap then becomes syrupous, fluid, and homogeneous. The operation is then achieved; cover the kettle, and leave it to rest eighteen or twenty hours.

Uncover the kettle, take off the scum which covers the soap, and pour the soap into the frame, by passing it through a wire sieve; stir the soap during its cooling, so as to have it perfectly homogeneous. In operating as we have indicated above, we extract from the 1600 lbs. of grease—

Soap of scum, 140 to 160 lbs.
Pure soap, 2100 to 2160 lbs.
Black soap, 500 to 600 lbs.

CHAPTER XC.

WHITE COCOA OIL SOAP.

To obtain this soap perfectly white, we must choose the best quality of cocoa oil. The lyes of soda must be perfectly free from sulphur, and have a high alkalimetric degree. In manufacturing soap, the addition of a certain quantity of potash renders it more foaming and sweet than when prepared with soda alone.

The best proportions to use are:—

Salt of soda at 80 or 85°	188 lbs.
Pearlash, first quality	12 lbs.
Lime newly burned	70 to 80 lbs.

To obtain a lye at 30°, the quantity of water to use is about 300 quarts, and the lye is prepared in the ordinary way. The saponification is produced in a sheet-iron kettle heated by steam. To prepare 400 lbs. of soap, use a kettle of a capacity of about 250 gallons, into which put 200 lbs. of pure oil, and 200 lbs. of lye, at 30°.

Heat the mixture, stirring all the time, and continue the action of the heat till the combination is effected.

When done, stop the heat, and run the soap into frames, stirring well, and perfume, 1 dr. of perfume to every pound of oil. Then, to perfume the 400 lbs. of soap, it will take 3 lbs. 2 ounces. The following composition gives to the soap a fine bouquet.

Essence of lemon	8	ounces.
" carvi	10	"
" rosemary	5	"
" thyme	3	"
" peppermint	6	"
" lavender	18	"
	50	"

Mix all the essences, and incorporate them into the soap immediately after it is poured into the frame.

After five or six days take the soap, divide it into cakes, weighing from 2½ to 3½ ounces each. The operation of making this soap consumes about one hour.

CHAPTER XCI.

ROSE SOAP OF COCOA OIL—YELLOW SOAP OF COCOA AND PALM—GRAY SOAP OF COCOA AND PALM.

Rose Soap of Cocoa Oil.

The only substances used to color this soap are of mineral origin, such as minium and vermilion. Coal tar colors can also be employed.

When the white soap is done, and ready to be put into the frame, add to it from ½ to 1 dr. of vermilion to the pound. Stir till the color is thoroughly mixed and run into the frame; to perfume, add the essences while the soap is still fluid.

There is found in the trade a kind of white soap, of rose marbled. To obtain this soap, put into the frame a certain quantity of white soap, 180 lbs. for example. When the soap begins to solidify, pour on it 20 lbs. of cocoa soap, nearly boiling, and strongly-colored rose; mix the two soaps, by stirring for a few minutes only. The rose soap spreads unequally in the white soap, and produces the desired effect.

Yellow Soap of Cocoa and Palm.

Mix ten per cent. of natural palm oil with cocoa oil. Saponify both together, as in the case of the white soap. If the soap has not the desired shade, color with a dissolution of annotto obtained by boiling for ten minutes 3½ ounces of annotto in 4 quarts of lye at 10°. When the soap is uniformly colored, perfume it with the following essences:—

Essence of canella, 3¼ ounces.
“ mirbane, 5 ounces.
“ thyme, 13¼ ounces.
“ clove, 1⅔ ounce.
“ lemon, 6½ ounces.
“ lavender, 13¼ ounces.
“ rosemary, 10 ounces.

Gray Soap of Cocoa and Palm.

This soap can be obtained by saponifying cocoa oil with a certain quantity of palm oil, in which has been placed a mixture of nitric acid and zinc.

To prepare the gray soap, heat a mixture of 192 lbs. of cocoa oil, and 8 lbs. of palm oil, blackened by its weight of lye of soda and potash, at 30°, operating as we have indicated for the white soap. This soap can be perfumed as the yellow soap.

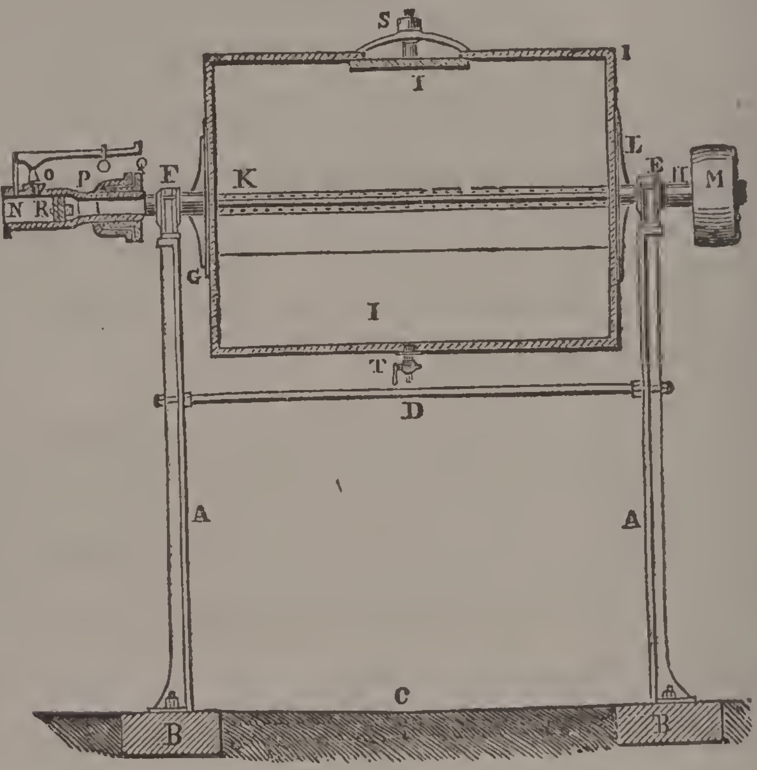
New Apparatus to Manufacture Toilet Soaps.

We give below the description of an apparatus for manufacturing toilet soaps, invented by MM. Hodgson and Holden.

This apparatus, of which the following is a vertical section passing through the centre, is made with two parallel upright posts, of cast-iron.

A A, screwed on wooden blocks, or on stones *B B*, fastened to the floor of the shop, and of which the superior face is on the level *C* of this floor. The superior part of each of these upright posts receives a coussinet *E E*, destined to be used as a supporter to the two axes, *G* and *H*, of the cylinder *I*. The axis *G* of this cylinder has a tubular form, to give passage to the steam, and is attached to the bottom, corresponding to the cylinder by a large shoulder. This tube continues inside of the cylinder, as it can be seen in *K*, and the portion which is thus inside is pierced throughout its length by numerous small holes. The opposite axis *H* is solid, and also attached by a wide shoulder *L*, and on the other bottom of the cylinder *I*, it carries at its outside extremity a pulley with a bolt *M*, which transmits to it the movement.

Fig. 31.



The steam is furnished to the tube *N*, which is in direct communication with a boiler, and has a safety-valve *O*, to disengage the excess of steam. This pipe *N* is provided with a box *P*, and a press-tone, so that steam cannot escape between the fire pipe *N* and the mobile pipe *G*; there is in *R*, on this pipe, *N*, a stopping automatic valve to shut it in this direction, so that the matter contained in the cylinder *I* cannot get into the steam-pipe when the pressure is too high in this cylinder.

The ingredients for the manufacture of the soap are introduced by the man hole *S*, while the cork *T* is used to draw them off, when necessary. When the cylinder has been loaded as convenient, it is hermetically shut, and the steam introduced by means of the pipes *N* and *G*, the pipe *K* pierced with holes. The steam penetrates the ingredients while the cylinder is turning.

Before admitting the steam into the cylinder, the valve *R* should be opened, so that this steam may expel all the air contained in the cylinder. This done, it is to be closed again. Thus the action of steam, combined with the movement of rotation, accelerates the work of saponification of the ingredients in the most economical, rapid, and efficacious manner.

When the proper degree of saponification has been reached, stop the steam, extract the matters of the cylinder, and begin another operation. To extract these matters, open the cork *F*, and the steam has again strength enough to make them run out.

This apparatus is very ingenious, and we recommend it to all manufacturers of toilet soaps.

CHAPTER XCII.

PERFUMED SOAPS.

We give below a few receipts for the fabrication of perfumed soaps. These formulæ can be varied indefinitely, but let the perfumer remember never to mix essences which destroy the properties of each other.

Savon au Miel.

Take—
Brown soap, 200 lbs.
Essence of aspic, 8 lbs.
“ thyme, 6 lbs.
“ fennel, 2 lbs.
“ lavender, 2 lbs.
“ clove, 2 lbs.
“ rosemary, 1 lb.
“ marjolaine, 1 lb.

Savon au Miel Anglais.

Take—
Brown foaming soap, 200 lbs.
Essence of cloves, 1 lb.
“ geranium, ½ lb.
“ citronella, ¼ lb.
“ sassafras, ¼ lb.

Savon au Suc de Laitue.

Take—
Beef tallow soap, 150 lbs.
White foaming soap, 50 lbs.
Essence of geranium of India, ½ lb.
“ “ of Nice, ¼ lb.
“ clove, ½ lb.
“ bergamot, ½ lb.
“ mirbane, 1 ounce.
“ canella, 1½ ounce.

London Windsor Soap.

Take—
Beef tallow soap, 100 lbs.
Brown foaming soap, 100 lbs.
Essence of citronella, 10 ounces.
“ clove, 8 ounces.

Savon Hygiènique.

Take—

White soap of beef grease, 200 lbs.
Essence of clove, 1 lb.
" geranium, ½ lb.
" sassafras, ½ lb.
" carvi, ½ lb.

Savon au Suc de Laitue.

Take—

Beef tallow soap, 150 lbs.
Cocoa oil soap, 50 lbs.

Reduce the soap to cakes, cut them into shavings. Cover with—

Bichromate of potash, 3½ ounces.
Blue acid, 3½ ounces.
Green, 3½ ounces.

Reduce the soap to fine leaves, dry it, and when dried, humect with—

Eau double de fleurs d'oranger, 6 qts.
" rose, 6 qts.
" melisse, 6 qts.

Perfume with—

Alcoholat de melisse, 1 qt.
Essence of cedrat, ½ lb.
" bergamot, 6 ounces.
" lemon, 6 ounces.
" neroli, 2¼ ounces.
" Portugal, 3½ ounces.
" vervain, 2 ounces.
" peppermint, 2½ ounces.

Essence of rosemary, 2 ounces.
" thyme, 2 ounces.
" rose, 1½ ounce.
Infusion of amber, 2 ounces.

Take 6 lbs. of the mass, which rub in a mortar, and mould into cakes of different weights and forms.

Savon Lis and Miel.

Take—

Beef tallow soap, 150 lbs.
Cocoa oil soap, 50 lbs.

Color like the above.

Humect with 18 qts. of double water of fleur de lis, and perfume with—

Essence of rose, 3½ ounces.
" clove, 16 ounces.
" geranium, 8 ounces.
" citronella, 4 ounces.
" sassafras, 4 ounces.

CHAPTER XCIII.

SOAPS MANUFACTURED COLD.

The saponification of oils and animal greases while cold, by lyes of soda, forms soaps which are never neutral. Whatever is the care taken, these soaps contain always more alkali than when boiled in alkalies.

For economy, the manufacture of these soaps is less advantageous than the other, because they require the previous concentration of the lyes.

Although inferior, this fabrication is followed by many manufacturers, and the proportions of the materials are thus calculated, so that the use of these soaps is not injurious to those using them.

This preparation consists in two distinct operations.

1. The preparation of the lye.
2. The fabrication of the soap.

Preparation of the Lye.

In a kettle with a double bottom, pour 500 quarts of water, heat it, and when it begins to boil, add a sufficient quantity of crystals of soda to have a solution marking 18 or 20°; add, by degrees, a milk of lime, made with lime recently burned. You must use from 45 to 50 lbs. of lime for every 100 lbs. of crystals of soda.

When all the soda is transformed into caustic soda, leave it to settle, then decant the liquor carefully, and evaporate it in an iron kettle till it marks 36°, when it is ready for use.

Fabrication of the Soap.

Take—

Pure white grease . . .	120 lbs.
Pure cocoa oil . . .	40 “
Lye of soda at 36° . . .	80 “
	240

Melt the grease in a kettle of about 75 gallons capacity, and when the mixture is at 122°, pour on, very slowly, the 80 lbs. of lye, at 36°. Stir all the time till completely saponified. The temperature must never be higher than 122°. The operation lasts about two hours, and when done, draw the soap into a frame. When the soap is soft, perfume it with 26⅔ ounces of bitter almonds, and 6⅔ essence of lemon for every 200 lbs.

This soap would also receive a very sweet perfume by incorporating in it, for every 100 lbs.—

Essence of vervain, 2½ ounces.
" lavender, 1⅔ ounce.
" bergamot, 1⅔ ounce.
" lemon, 1⅔ ounce.
" thyme, 3⅓ ounces.

The essences should be added when the soap is drawn into the frame, and it is even better to incorporate them before.

A few days after the mass is cold, take it from the frame, divide it into squares of 3 to 6 ounces each, and dry them.

From the above quantity are extracted from 118 lbs. to 119 lbs. of soap. This soap is often adulterated.

CHAPTER XCIV.

PERFUMED SOAPS PREPARED COLD.

Rose Soap.

The color of rose is obtained by incorporating with the soap a certain quantity of vermilion; it is better to add the coloring matter before the saponification. The proportions are from ½ to 1 dr. for a pound of soap; to perfume this soap, use for 10 lbs.—

Essence of rose, ½ ounce.
" geranium, 6 drs.
" canella, 1¼ dr.
" clove, 1½ dr.
" bergamot, ½ ounce.

Mix all the oils, and incorporate before drawing in the frame.

For canella color, use brown ochre, from ½ dr. to 2 drs., according to the shade.

To harmonize the perfume with the color, you can use the following composition for 10 lbs. of soap:—

Essence of canella, 10 drs.
“ clove, 1½ dr.
“ sassafras, 1¾ dr.
“ bergamot, 1½ dr.
“ lemon, 6 drs.

Another Process.

Perfume with—

Essence of roses, ½ lb.
“ neroli, 5 ounces.
“ canella, 2½ ounces.
“ geranium, 5 ounces.
“ bergamot, 5 ounces.

Another Process.

Take—

Pure lard	80 lbs.
Cocoa oil	40 “
Cacao oil	24 “
Olive oil	16 “
Caustic lye	80 “
	240

Gum tragacanth, 5 ounces.
Vermilion, 20 ounces.

Perfume with—

Essence of rose, 10 ounces.
“ neroli, 6⅓ ounces.

Essence of canella, 3⅔ ounces.
" geranium, 13½ ounces.
" bergamot, 13½ ounces.

Savon à la Rose, No. 1.

Take—
Paste of rose soap, 40 lbs.
Infusion of styrax, ½ ounce.
Essence of civet, 1¼ dr.
" musk, 2½ drs.
" bergamot, 1¼ dr.
" thyme, ¼ dr.
" rose, 3 ounces.
Powdered rhodium wood, 3¼ ounces.

Savon à la Rose, No. 2.

Take—
Paste of rose soap, 40 lbs.
Essence of rhodium wood, 3¼ ounces.
" rose, 1 ounce.
" clove, 5 drs.
" civet, 2 drs.
" thyme, ½ dr.
" bergamot, 2½ drs.
Infusion of styrax, 2½ drs.

Savon à la Rose, No. 3.

Take—
Paste of rose soap, 24 lbs.
Rhodium wood, 2 ounces.
Essence of roses, ½ ounce.
" clove, 1 ounce.
" civet, ½ ounce.
" thyme, ¼ ounce.
" bergamot, 1¼ ounce.

Savon à la Rose, No. 4.

Take—

Paste of rose soap, 35 lbs.
Rhodium wood, 3 ounces.
Essence of roses, 1 ounce.
" clove, ½ ounce.
" civet, 1¾ dr.
" thyme, ½ dr.
" bergamot, 2 drs.
Infusion of styrax, 2 drs.

Savon Jaune de Guimauve.

This soap is of a fine yellow color; it is obtained by a mixture of palm oil, tallow, and cocoa oil. The following proportions give good results:—

White tallow, 50 lbs.
Pure cocoa oil, 30 lbs.
Palm oil, 20 lbs.
Lye of salt of soda at 36°, 50 to 52 lbs.

Melt the tallow and other greases in a sheet-iron kettle, add the lye, and operate as for the white soap. If the color is not dark enough, add a solution of annotto, prepared by boiling 1 ounce of annotto in a quart of lye of soda at 10°. Boil five minutes, and pass through a cloth. This soap is perfumed as follows:—

Essence of lavender, 1 lb.
" lemon, 3⅓ ounces.
" vervain, 1⅔ ounces.
" English peppermint, 2½ drs.
" neroli, 1 ounce.

These proportions are calculated for 150 lbs. of soap.

Foaming Soap of Guimauve.

Take—

Cocoa oil, 80 lbs.
Palm oil, 8 lbs.
Cameline oil, 6 lbs.
Rosin, 6 lbs.
Lye at 30°, 100 lbs.

Operate as above, and after pouring the lye, incorporate—

Gum tragacanth, 10 ounces.

Perfume with—

Essence of cloves, 2 lbs.
" canella, 1 lb.
" Portugal, 3 lbs.
" thyme, 3 lbs.

Windsor Soap for the Whiskers.

This soap is composed in the following manner:—

Pure white tallow, 80 lbs.
Cocoa oil, 40 lbs.
Lye of soda at 30°, 68 lbs.
" potash, at 30°, 12 lbs.

Melt the greases at a gentle heat; when melted, and the temperature is at 95°, pour in by degrees the lyes, stirring all the time, and continue thus, till the paste is perfectly homogeneous.

Perfume with—

Essence of carvi, 6⅔ ounces.
" bergamot, 10 ounces.
" Portugal, 1⅔ ounce.
" clove, 2½ drs.
" lavender, 3⅓ ounces.
" thyme, 3⅓ ounces.

Add the essences a few minutes before drawing into the frame.

When the soap is solidified, cut it into pieces of two to four ounces in weight.

The above quantities give 238 lbs. of soap.

Savon Fleur d'Italie, extra fin.

Take—

Body of lard à la vanille, 70 lbs.
Pommade à la fleur d'oranger, 30 lbs.
Oil à la rose, 20 lbs.
" of cocoa, 20 lbs.
Butter of cacao, 16 lbs.
Olive oil, 4 lbs.
White wax, 2 lbs.
Caustic lye, 78 lbs.
Gum tragacanth, 7 ounces.

Melt the wax, add to it the olive oil, afterwards the cacao and cocoa oil; the whole being melted, add the pomade and the perfume body; stir the whole; add the lye, and saponify as above.

Perfume with—

Essence of neroli, 1⅔ ounce.
" clove, 3⅓ ounces.
" bouquet anglais, 6⅔ ounces.
" rose, 1⅔ ounce.
Tincture of amber, 6 drs.
" musk, 6 drs.

Savon Jonquille, extra fin.

Take—

Pommade à la fleur d'oranger, 50 lbs.
" tubéreuse, 50 lbs.
" jasmin, 40 lbs.

Oil, 16 lbs.
White wax, 4 lbs.
Caustic lye at 30°, 80 lbs.
Gum tragacanth, 3⅓ ounces.

Operate as above. To give this soap a slightly yellow color, boil for five minutes 1⅓ ounce of annotto in 4 ounces of soda lye, at 10°, and pour into the paste.

Perfume with—

Concentrated tincture of styrax, 20 ounces.
Balsam of Peru, liquid, 8 ounces.
Tincture of musk, 6⅔ ounces.
" amber, 6⅔ ounces.

Melt the wax, pour into it the balsam of Peru to dissolve it, and continue as above.

Savon Benjoin, extra fin.

Take—

Body of lard au benjoin, 80 lbs.
" " au fleurs de benjoin, 28 lbs.
Olive oil, 20 lbs.
Cocoa oil, 30 lbs.
Caustic lye, 80 lbs.
Gum tragacanth, 6 ounces.
White wax, 2 lbs.

Operate as above, and perfume with—

Essence of bergamot, 13 ounces.
" lemon, 10 ounces.
Powdered flowers of benzoin, 6⅔ ounces.
Essence of rose, 1 ounce.
" lavender, 1 ounce.
Tincture of benzoin, 27 ounces.

Savon Ambré, extra fin.

Take—

Body of lard with musked amber, 80 lbs.
Pommade au jasmin, 40 lbs.
Body of lard à l'ambrette, 20 lbs.
Oil à la rose, 20 lbs.
White wax, 1 lb.
Caustic lye, 1¼ ounce.
Gum tragacanth, 5 ounces.

Operate as above, and perfume with—

Tincture of composed amber, 2 lbs.
Extract of lavender, 2 lbs.

Savon Millefleurs, extra fin.

Take—

Body of lard à la vanille, 60 lbs.
" " à l'ambrette, 46 lbs.
Pommade à la rose, 30 lbs.
Oil à la rose, 20 lbs.
White wax, 2 lbs.
Butter of cacao, 6 lbs.
Caustic lye, 76 lbs.
Gum tragacanth, 6¼ ounces.

Operate as above, and perfume with—

Essence of lavender, 2⅔ ounces.
" lemon, 3⅓ ounces.
" bergamot, 1⅔ ounce.
" clove, 6 drs.
" geranium, 6 drs.
Tincture of amber, 5 drs.
" musk, 2½ drs.
" civet, 1 dr.

Savon au Miel d'Angleterre, extra fin.

Take—

Pommade à la tubéreuse, 30 lbs.
“ au jasmin, 20 lbs.
Oil au jasmin, 10 lbs.
Body of vanilla to the lard, 10 lbs.
“ lard with orris, 10 lbs.
“ of benzoin, 2 lbs.
White wax, 2 lbs.
Caustic lye, 40 lbs.
Gum tragacanth, 5 ounces.

Operate as above, and perfume with—

Extract miel d'Angleterre, 2 ounces.
Tincture of musk, 2 ounces.
“ amber, 2 ounces.
“ civet, 5 drs.
Essence of rose, 10 drs.
“ clove, 1 ounce.
“ bergamot, 2 ounces.

Savon à la Maréchale, extra fin, Cosmetique and Hygiènique.

Take—

Lard body à la maréchale, 48 lbs.
Pommade au jasmin, 6 lbs.
“ à la fleur d'oranger, 6 lbs.
“ à la tubéreuse, 6 lbs.
“ à la cassie, 6 lbs.
Body of lard with amber, 2 lbs.
“ “ musk, 1 lb.
Olive oil, 4 lbs.

White wax, 1 lb.
Cocoa oil, 4 lbs.
Caustic lye, 38 lbs.
Gum tragacanth, 5¼ ounces.

Operate as above, and perfume with—

Tincture à la maréchale composée, 1 lb.

Savon au Bouquet, extra fin.

Take—

Body of lard, 50 lbs.
Cocoa oil, 20 lbs.
Olive oil, 10 lbs.
White wax, 2 lbs.
Caustic lye, 38 lbs.
Gum tragacanth, 4 ounces.

Operate as above, and perfume with—

Essence of bergamot, 1 lb.
" clove, 3 ounces.
" neroli, 3 ounces.
" sassafras, 2 ounces.
" thyme, 2 ounces.

Savon au Suc de Concombre, extra fin.

For manufacturing this soap, the lye is prepared by dissolving 2 lbs. of pearlash in 50 quarts of lye of soda, at 27 or 28°.

After dissolution of the potash, the lye marks 50°. Leave it to settle twelve hours, and decant the clear lye.

In a sheet-iron kettle of the capacity of 100 to 125 gallons, put—

Cocoa oil, 80 lbs.
Bleach palm oil, 20 lbs.

Add afterwards 100 lbs. of lye, at 30°.

Heat slowly, stirring all the time; when the soap is done, stir the mass till reduced to a low temperature. Perfume with—

Essence of cucumber, 3⅓ ounces.
" bergamot, 10 ounces.
" clove, 1¼ ounce.
" geranium, 6 ounces.

After incorporating the essences, draw into the frames.

A few days afterwards, when the soap is firm enough, divide it into pieces.

Savon très Blanc à l'Huile de Cocoa.

Take—

Pure and white cocoa oil, 100 lbs.
Colorless lye at 30°, 100 lbs.

Operate as above. Perfume with 1 dr. of essence for a pound of soap; the following perfume is the best.

Essence of peppermint	41¼	drs.
" sage	41¼	"
" thyme	41¼	"
" lavender	25	"
" rosemary	25	"
" serpolet	26¼	"
	25 ounces.	

Savon Cannelle à l'Huile de Cocoa

Is prepared as usual, and a brown color is given to it with brown ochre, in proportions varying from 1 to 3 lbs. to 200 lbs. of soap. Perfume with—

Essence of canella, 26½ ounces.
" clove, 3½ ounces.
" sassafras, 5 ounces.
" bergamot, 3½ ounces.
" lemon, 96 ounces.

Savon de Mucilage de Pepins de Coings.

Prepare this mucilage by boiling slightly 1 lb. of pips of quince in 15 or 16 quarts of water, and after a sufficient reduction, pass it through a sieve. Then mix this mucilage with the other substances used to manufacture for example, 16 to 20 lbs. of soap.

Savon Hygiènique Dulcifié Lactarius.

Take—

Cream lactarine, 14 lbs.
Sperm, 2 lbs.
White wax, 4 lbs.
Oil of sweet almonds, 6 lbs.
Cocoa oil, 28 lbs.
Body of lard, 30 lbs.
Caustic lye, 38 lbs.
Gum tragacanth, 3½ ounces.

Operate as above, and perfume with—

Essence of bitter almonds, 2⅔ ounces.
" bergamot, 12 ounces.
" clove, 1⅓ ounce.
" geranium, 5 ounces.

Before perfuming, add to the paste—

Almonds, 8 ounces.
Rice flour, 2 ounces.
Powdered orris, 1 ounce.
" white soap, 1 ounce.

Mix, and pulverize all these substances.

Savon Amygdalin, or Milky Juice of Raspberry.

Take—

Tallow soap, 140 lbs.
Cocoa oil soap, 60 lbs.

Color light rose.

Humect with 17 quarts of double water of raspberry, and perfume with—

Pinky powder à la Framboise, 1 lb.
Concentrated infusion of raspberry, 2 qts.
Peters' balm, 6½ ounces.
Essence of rose, 3¼ ounces.
Tincture of amber, 2 ounces.

Savon Cold Cream Solidifié.

Take—

Body of lard, 30 lbs.
Cocoa oil, 28 lbs.
Sweet almond oil, 6 lbs.
Sperm, 2 lbs.
White wax, 4 lbs.
Cold cream, 14 lbs.
Caustic lye, 38 lbs.
Gum tragacanth, 4 ounces.

Operate as above, and perfume with—

Essence of bitter almonds, 2⅔ ounces.
" bergamot, 12 ounces.
" clove, 1⅓ ounce.
" geranium, 5 ounces.

Savon aux Violettes des Bois, extra fin.

Take—

Pommade à la cassie, 42 lbs.
" au jasmin, 4 lbs.
Oil, 10 lbs.
Body of lard with orris, 14 lbs.
" ambrette, 14 lbs.
White wax, 2 lbs.
Caustic lye, 36 lbs.
Gum tragacanth, 4½ ounces.

Operate as above, and perfume with—

Tincture of orris, 5 drs.
" ambrette, 5 drs.
Essence of geranium, 10 ounces.
" bergamot, 10 ounces.

Savon aux Violettes de Parme, extra fin.

Take—

Pommade à la violette, 48 lbs.
Oil of jasmine, 4 lbs.
" à la rose, 4 lbs.
" cassie, 4 lbs.
" of palm, 20 lbs.
White wax, 2 lbs.
Caustic lye, 38 lbs.
Gum tragacanth, 5 ounces.

Perfume with—

Essence of bouquet anglais, 13½ ounces.
" orris, 6½ ounces.
Extract of violet, 16 ounces.

Savon Hygiènique, extra fin.

Take—

Pommade à la fleur d'oranger, 20 lbs.
“ rose, 18 lbs.
Cocoa oil, 20 lbs.
Palm oil, 10 lbs.
Olive oil, 10 lbs.
White wax, 2 lbs.
Caustic lye, 38 lbs.
Gum tragacanth, 5 ounces.

Perfume with—

Tincture of benzoin, 1 qt.
Essence of bergamot, 13½ ounces.
“ lemon, 2 ounces.
“ sandal, 1⅔ ounce.
“ clove, 1⅔ ounce.
“ geranium, 3⅓ ounces.
“ lavender, 1 ounce.
“ canella, 3 drs.
“ citronella, 1¾ dr.

Savon Impérial Français, extra fin.

Take—

Pommade à la rose, 16 lbs.
“ à la fleur d'oranger, 16 lbs.
Lard body with amber, 12 lbs.
Extract of pomade to the musk, 6 lbs.
“ “ à la vanille, 6 lbs.
Palm oil, 8 lbs.
Cocoa oil, 8 lbs.
Olive oil, 8 lbs.
White wax, 3 lbs.

Caustic lye, 38 lbs.
Gum tragacanth, 4½ ounces.
Body of powder of mousseline, 1⅔ ounce.

Perfume with—

Extract of lavender, 1 qt.
Essence of clove, 1 ounce.
“ bergamot, 8 ounces.
“ sandal, 2 ounces.
“ geranium, 2 ounces.
“ rose, 5½ drs.
“ citronella, 1¼ dr.
Tincture of styrax, 4 ounces.
“ balsam of Peru, 2 ounces.

Savon à la Mousseline, extra fin.

Take—

Lard body, 16 lbs.
Cocoa oil, 16 lbs.
Butter of cacao, 12 lbs.
Oil of sweet almonds, 6 lbs.
Olive oil, 6 lbs.
Infusion of mille-pertuis, 8 lbs.
Pure palm oil, 12 lbs.
Sperm, 2 lbs.
White wax, 2 lbs.
Caustic lye, 38 lbs.
Gum tragacanth, 6⅓ ounces.

Melt over a water-bath the wax and sperm. Perfume with—

Extract of mousseline, 1 qt.
Body of powder of mousseline, 3⅓ ounces.

Incorporate the body of mousseline at the same time as the extract of mousseline, before drawing the soap into the frame, with—

Body of powder of amber, 2½ drs.
" " musk, 1¼ dr.
Tincture of civet, 1¼ dr.

Savon Musc, extra fin.

Take—

Palm oil, 40 lbs.
Lard body, 80 lbs.
Cocoa oil, 24 lbs.
Olive oil, 16 lbs.
Caustic lye, 80 lbs.
Gum tragacanth, 4 ounces.

Perfume with—

Essence of bergamot, 1 lb.
" rose, 1⅔ ounce.
" clove, 1⅔ ounce.
Tincture of musk, 3⅓ ounces.

Use 1 lb. of Prussian brown for 200 lbs. of soap, to color.

Savon Medicinal, extra fin.

Take—

Lard body, 80 lbs.
Oil of fleurs de lis, 32 lbs.
Cocoa butter, 24 lbs.
Oil of sweet almonds, 16 lbs.
White wax, 8 lbs.
Caustic lye, 80 lbs.
Gum tragacanth, 5 ounces.

Perfume with—

Essence of citronella, 10 ounces.
" vervain, 6⅔ ounces.
" peppermint, 5 ounces.
Tincture of amber, 2⅔ ounces.
" musk, 2 ounces.
" civet, 2½ drs.

CHAPTER XCV.

LIGHT SOAPS.

The lightness and porosity of these soaps are due to the introduction of a certain quantity of air into the paste, which, by considerably dilating its molecules, increases proportionally its volume.

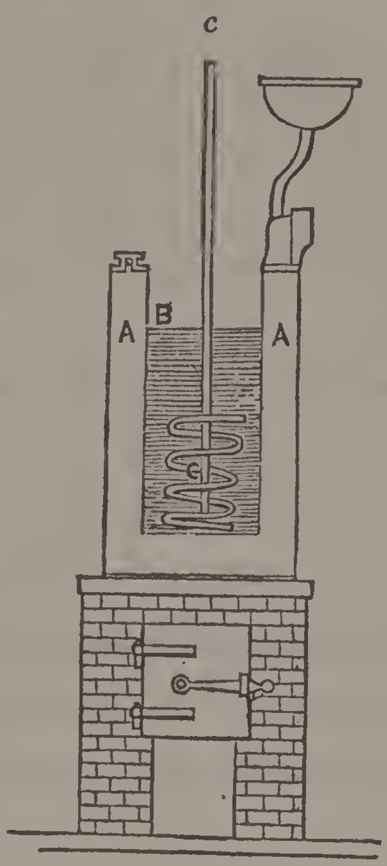
Sometimes, but rarely, these soaps are prepared with the scum which comes in the preparation of white soaps; sometimes, but more rarely, also, they are obtained by strongly stirring the fat of the same soap—that is, the residue which is left in the kettle after the liquidation of the white soap; but the soap thus obtained is very defective.

The perfumer prepares these soaps by a very different process. The principal object in the fabrication of light soaps being—as we have said—to introduce air into the paste; the following process is the best.

Take 20 lbs. of fine white tallow soap, which reduce into fine shavings, and melt with half its weight of clear water. Use for this operation the apparatus represented below.

Under the influence of heat and shaking, the soap becomes foaming, and forms a very abundant scum; in this state, stop the fire. After a settlement of two or three hours, draw off the soap into one or several frames, being careful that the thickness of the soap in the frames is not more than six or seven inches. Seven or eight days after cut the soap into cakes. This soap is nearly always colored rose, with $\frac{1}{2}$ to $1\frac{1}{4}$ dr. of vermilion for a pound of soap. Aromatize according to taste.

Fig. 32.



A A is a cucurbite.

B is a tinned copper water-bath.

C is a beater to which a movement of rotation is given by a motor. The capacity of the water-bath for 20 lbs. of soap must be of 25 gallons.

The soap is put into the water-bath B with the necessary quantity of water; when melted, put the beater C in motion. For the operation to succeed well, the temperature of the mixture must be between 158 and 176°.

CHAPTER XCVI.

POWDERED SOAPS.

POWDERED soaps have a slight alkaline reaction, and are completely soluble in pure water and boiling alcohol.

Often these soaps are manufactured by rubbing the pieces of soap in a marble mortar, and the finest part is separated by a sieve.

To prepare them directly, take cakes of white soap, reduce them into shavings, and dry them in an oven; powder them in a mortar, and sieve.

Perfume with the essence of bitter almonds, or any other before powdering, and color red or yellow.

This powder is excellent for whiskers, hands, and baths, but it is very hygrometric, and must be kept from contact with the air.

Poudre de Savon de Windsor.

Take Windsor soap, as white and dry as possible, pulverize it, and pass it through a sieve. Melt over a water-bath; when melted, run it into a box, and when cold, cut it into fine shavings, dry it, powder, and pass it through the sieve.

Poudre de Savon au Beurre de Galam.

Take 1 part of butter of Galam, and 1 part of good white soap, cut them into fine shavings. Subject to a very gentle heat over a water-bath, so as to have it dry, but not melted. When entirely dry, powder it, and pass through the sieve.

Poudre de savon Onctueuse.

Take light soap, cut it into fine shavings, and dry it; powder, and sieve it.

Poudre de Savon Parfumé à toute Odeur.

This powder is perfumed by introducing, when the soap is melted, the same quantity of essences as for the cakes, that is, for 6 lbs. of soap, take—

Essence of bergamot, 4 ounces.
" lemon, 1 ounce.
" Portugal, ½ ounce.
Essential oil of anis, ½ ounce.

Perfume with any other odor, if desired.

CHAPTER XCVII.

ESSENCES OF SOAP.

By this name is designated a dissolution of soap in alcohol. As soap is less soluble in cold than in warm alcohol, the dissolution must be made while warm. It is also desirable to employ the alcohol at a degree of concentration convenient to have a limpid dissolution. When this liquid is below 80°, it takes a nebulous aspect in cooling. Alcohol at 80 or 85° is the best to use.

All kinds of soaps are not good to prepare the essence from. Those made with animal greases, while very soluble in boiling alcohol, solidify by cooling.

The soaps made with vegetable oils are also very soluble in boiling alcohol, and have the advantage of forming dissolutions which keep their limpidity and fluidity after cooling, consequently they are preferable. The addition of a small quantity of potash increases the solubility of the soaps in alcohol, but this addition must be made carefully, so as not to render the essence too caustic. Generally 2½ to 3 drs. of potash for a pound is sufficient to give an alkaline reaction.

We give now the general formula for preparing the essences of soap.

Take—

White soap of Marseilles, 6 ounces 5 drs.
Alcohol at 85°, 1 qt.
Potash, 6 drs.

Cut the soap into fine shavings, and put it into a bottle of ½ gallon capacity; add the alcohol and potash, and heat gently without boiling, over a water-bath. Stir with a glass rod. When the dissolution is complete, take it out of the water-bath, and add the essences. You can give to this preparation a very sweet perfume by adding to it—

Essence of geranium, 1½ dr.
" vervain, 2½ drs.

To color yellow, introduce 2½ drs. of saffron.

After an hour or two of rest, filter the dissolution.

This essence stays limpid at the ordinary temperature. To use it, pour a few glasses in half a tumbler of water, and stir quickly. It is a cosmetic very generally used.

In the following formulæ the quantities are calculated for 2 lbs. 6¼ ounces.

Perfume of Bitter Almonds.

Take—

Essence of bitter almonds, 2½ drs.
" bergamot, 1¼ dr.

Another Process.

Take—

Essence of mirbane, 1¼ dr.
" bitter almonds, 1¼ dr.
" canella, ¼ dr.

Perfume of Windsor.

Essence of bergamot, 1¼ dr.
" clove, ¼ dr.
" thyme, 1¼ dr.
" peppermint, ½ dr.

Perfume of Lemon.

Essence of lemon, 3 drs.

Perfume of Portugal.

Essence of Portugal, 3 drs.

An essence of soap with a very sweet and fine perfume, can be prepared as follows:—

Spirit of roses, 6⅔ ounces.
" vanilla, 3⅓ ounces.
" orris, 6⅔ ounces.
" orange flowers, 16 ounces.
White soft soap, 3⅓ ounces.
Potash, 2½ drs.

Melt over a water-bath the soap and potash, in the perfumed spirits, and proceed as above. When the soap is entirely dissolved, filter.

There has existed for a number of years in the market a composition called *saphofane*, much used for the toilet. This product, which has always a very thick syrupous consistence, is nothing but a dissolution of resinous and tallow soap. A perfect imitation is thus prepared:—

Soap of resin and tallow, 2 lbs.
Alcohol at 85°, 2 qts.
Saffron, 1 ounce.

The soap is cut into fine shavings, and dissolved in the alcohol without ebullition. Perfume with—

Essence of canella, ½ ounce.
" clove, 1¼ dr.
" lemon, 1¼ dr.
" peppermint, ½ dr.

Mix well, and while the mixture is warm, pass it through a fine silk sieve. When cold, bottle it. This preparation makes a fine foam with water.

CHAPTER XCVIII.

TRANSPARENT SOAPS.

The transparent soaps, colored or colorless, are prepared by dissolving in alcohol tallow soaps well dried.

All solid soaps are not proper for the preparation of transparent soaps. Those made with olive oil, treated by alcohol, take with difficulty a solid consistence, and the soap which results from it is opalescent. Fine tallow soap is preferable, although resinous soap with tallow is very good.

The principal condition to be observed in their preparation, is the use of soap perfectly dried, and very concentrated alcohol.

Let us suppose that we use the white tallow soap. Reduce it into very fine shavings, spread it on sheets of paper, and expose it in an oven till completely dried; powder it in a marble mortar, and pass it through a sieve. The powder thus prepared is directly dissolved in alcohol. This last operation is the most delicate, and on the manner in which it is conducted, depends the success of the soap.

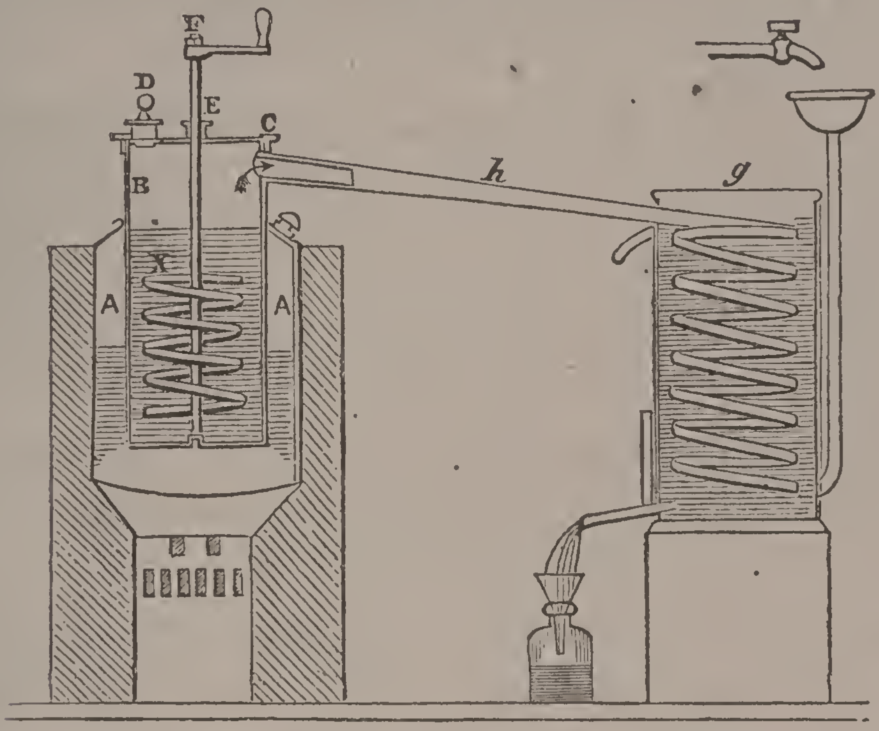
Dissolve the soap directly with its weight of alcohol in a kettle; when the soap is dissolved, draw the limpid and transparent liquor into a frame, where it solidifies by cooling. Introduce the colors and perfumes before the solidification.

This process presents inconveniences. The action of direct fire injures the beauty and transparency of the soap, and at each operation a large quantity of alcohol is lost; generally it is prepared in an alembic; below we give a plan of the best apparatus for manufacturing those soaps.

For every 2 lbs. of soap, the capacity of the water-bath must be of 4 quarts; thus, supposing an operation on 20 lbs., the water-bath must have a capacity of 10 gallons.

Introduce into the water-bath B 20 lbs. of soap, previously perfectly dried and powdered; pour on it 10 quarts of alcohol at 40°, and after a contact of twenty-four hours, heat the apparatus, and when the alcohol begins to boil, stir the mixture with the shaker F. During the operation, a part of the alcohol volatilizes, and condenses in the snake *g*, surrounded with cold water.

Fig. 33.



A A. Cucurbite in copper fixed on a brick furnace.

B. Water-bath which exactly fits into the cucurbite; the dissolution of this soap is operated in the vase.

C. Covercle of the water-bath. It has two apertures, D, E. The first is shut by a large cork; the other gives passage to the shaker X F.

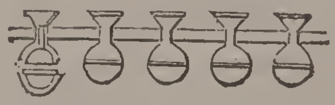
F. Shaker.

g. Snake in copper or tin, destined to condense the alcoholic liquors.

h. Copper pipe used to keep communication between the alembic and the snake.

When the soap is entirely dissolved, the operation is achieved. Leave it to rest for a few hours, and draw off the soap into a little frame, lined with lead, which opens into two parts, and is represented below.

Fig. 34.



When the soap is solidified and cooled, draw it from the frames or moulds, and dry it in the air.

When dried, it looks tarnished; to render it transparent, it is necessary to rub it with a cloth saturated with alcohol.

After this operation, the soap is very transparent, and its color is white. It is perfumed in the frame when fluid, with 1 or 1¼ dr. essence of canella and cloves for a pound. Transparent soaps are generally colored yellow and rose. The first color can be obtained naturally by using the tallow and rosin soap, but if you want to obtain a yellow soap with tallow soap, you must infuse 2½ drs. of turmeric for every quart of alcohol; 1¼ dr. of annotto produces the same effect.

The rose color is obtained by treating the same quantity of orkanet or archil by alcohol; the blue is produced by the carmine of indigo.

We recommend specially for these soaps the use of coal tar colors.

In Belgium and Prussia transparent soaps are prepared with a soap made cold, as follows:—

Tallow, 18 lbs.
Cocoa oil, 2 lbs.
Lye at 36°, 10 lbs.

Saponify as we have indicated for the cold soaps, and treat by the ordinary process, to make transparent soap.

CHAPTER XCIX.

SOFT SOAP OR ALMOND CREAM.

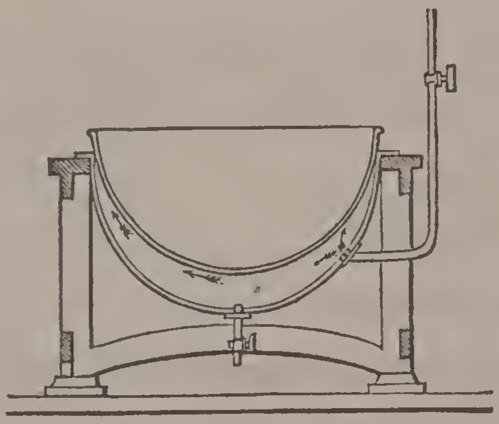
The soft toilet soaps have potash for bases; they are prepared with white grease, mixed with five per cent. of cocoa oil. Their odor is due to the essence of bitter almonds.

To prepare this soap perfectly white, operate as follows:—

The lye being prepared, melt in a kettle, of a capacity of 50 gallons, 50 lbs. of white grease, and 10 lbs. of cocoa oil. When the greases are melted, add 50 pounds of lye of potash at 21°, stirring the mixture all the time, and at a temperature of about 158°. This operation lasts about four hours; then add 30 lbs. of lye of potash, at 36°, and stir all the time, keeping the temperature stationary between 140 and 158°.

The saponification is perfected when the paste has taken a very thick consistence, when the fire must be stopped. To manufacture this soap, it is better to use a kettle with a double button, as here represented. This kettle is of tinned copper, and can be used also to purify tallow, lard, grease, etc.

Fig. 35.



The time consumed in the entire operation is from seven to eight hours.

When the soap is entirely cooled, pour it into an earthen jar, and keep it for use.

This soap has not that bright and nacreous aspect of toilet soaps; to obtain it in this state, it must be rubbed in a marble mortar, and aromatized afterwards with the essence of bitter almonds.

Crême d'Amandes Amères.

Take—

Lard, 20 lbs.
Lye of potash at 36°, 10 lbs.

Melt the grease in a porcelain dish, heated on a sand-bath; stir continually, till all the grease is half melted, pour on it half the lye, stirring and keeping the temperature regular. About one hour after, add the remainder of the lye. Continue the operation for four hours. Stop the fire, and leave it to cool slowly.

Triturate the soap in a marble mortar with essence of bitter almonds.

Crême de Cacao.

In making this cream, substitute the bitter almonds by cacao.

Crême de Savon.

Melt 2 lbs. of fine cocoa oil, and saponify with 2 lbs. of lye of potash, at 22°; heat till boiling, and to thicken the mixture, add 3½ ounces of lye of soda, at 30°.

The soap being done, perfume whilst cold, with—

Essence of vervain, 2 drs.
" geranium, 2 drs.

Savon à la Glycerine.

To prepare glycerine soap, be careful, in mixing the glycerine with the soap, to avoid the saponification of the glycerine, because it will thereby lose its softening properties. For that purpose, take a mixture of soap finely powdered, and equal parts of water and alcohol, which heat over a water-bath, and when in the soap, which runs like oil, the greatest part of the alcohol has been evaporated, add a corresponding quantity of glycerine.

CHAPTER C.

DIFFERENT PROCESSES OF COLORING AND PERFUMING SOAPS.

Savon d'Amandes Amères.

Take—

Pure white soap, 20 lbs.
Essence of bitter almonds, 4 ounces.

Windsor Soap.

Take—

White tallow soap, 20 lbs.
Essence of bergamot, 2 ounces.
" carvi, 6 drs.
" clove, 4 drs.
" thyme, ½ ounce.

Another Perfume for Windsor Soap.

Take—

Essence of bergamot, 6 drs.
" lavender, ½ ounce.
" carvi, 2 ounces.
" rosemary, ½ ounce.

Savon à la Rose.

Take—

White soap, 20 lbs.

Color rose with two to three ounces of vermilion, and perfume with—

Essence of rose, 10 drs.
" clove, 4 drs.
" canella, 2½ drs.
" bergamot, 8 drs.
" neroli, 2½ drs.

Another Perfume.

Take—

Essence of rose, 6 drs.
" geranium, 2 ounces.
" clove, ½ dr.
" canella, 2½ drs.

Savon de Palme.

Take—

Pure palm soap, 10 lbs.
Half palm soap, 10 lbs.

Perfume with—

Essence of bergamot, 2 ounces.
" canella, 6 drs.
" lavender, 8 drs.
" clove, 4 drs.

Savon de Guimauve, fin.

Take—

White tallow soap, 10 lbs.
Palm oil soap, 10 lbs.
Color with yellow ochre, 1 ounce.
Orange-mine, 1 oz.
Gamboge, 5 drs.

Perfume with—

Essence of lavender, 1½ ounce.
" lemon, ½ ounce.
" neroli, ½ ounce.
" vervain, 2½ drs.
" peppermint, ¾ dr.

Another Perfume.

Take—

Essence of Portugal, 10 drs.
“ thyme, 8 drs.
“ lavender, 2½ drs.
“ canella, 4 drs.
“ clove, 6 drs.

Another Perfume.

Take—

Essence of lavender, 1 oz. 5 drs.
“ peppermint, 2½ drs.
“ carvi, 4 drs.
“ rosemary, 2½ drs.
“ lemon, 5 drs.
“ thyme, 2½ drs.

Savon au Bouquet.

Take—

White tallow soap, 20 lbs.
Essence of bergamot, 2½ oz.
“ clove, ½ oz.
“ neroli, ½ oz.
“ sassafras, 2½ drs.
“ thyme, 2½ drs.

Parfum au Bouquet des Alpes.

Take—

Essence of lavender, 5 drs.
“ peppermint, 5 drs.
“ sage, 5 drs.
“ serpolet, 2½ drs.
“ rosemary, 4 drs.
“ lemon, 2½ drs.

Savon aux Fleurs d'Italie.

Take—

Essence of citronella, 12½ drs.
" geranium, 2½ drs.
" vervain, 8 drs.
" peppermint, 2½ drs.

Color with 2½ ounces brown ochre.

Savon au Benjoin.

Take—

White tallow soap, 20 lbs.
Tincture of benzoin, 1 lb. 10 oz.

Savon à la Vanille.

Take—

White tallow soap, 20 lbs.
Tincture of vanilla, 1 lb.
Essence of rose, 1¼ dr.

Savon à l'Huile de Cannelle.

Take—

Pure palm oil soap, 10 lbs.
Tallow soap, 10 lbs.

Perfume with—

Essence of canella, 2½ ounces.
" sassafras, 5 drs.
" bergamot, 8 drs.

Color with 2½ ounces of yellow ochre.

Savon au Musc.

Take—

Pure palm soap, 10 lbs.
White tallow soap, 10 lbs.
Essence of bergamot, 12½ drs.

Essence of rose, 1¼ dr.
“ clove, 1¼ dr.
“ musk, 2½ drs.

Color with 2½ oz. of brown ochre.

Savon à la Fleur d'Oranger.

Take—

White tallow soap, 12 lbs.
Pure palm oil, 8 lbs.
Essence of Portugal, 3½ oz.
“ amber, 2½ drs.

Another.

Take—

Essence of geranium, 10 drs.
“ neroli, 12½ drs.

For 20 lbs. of soap.

Savon de Crimée.

Take—

White tallow soap, 16 lbs.
Palm oil soap, 4 lbs.
Essence of thyme, 1 oz.
“ lavender, 2½ drs.
“ peppermint, 1 ounce.
“ rosemary, 1 ounce.
“ clove, 1¼ dr.
“ tincture of benzoin, 10 drs.

Color with 2½ drs. vermilion, 1 oz. brown ochre, ½ dr. vory black.

CHAPTER CI.

ESTIMATION OF THE VALUE OF SOAP.

Dr. Alexander Müller's Process.

In consequence of the tedious process by which the fatty acids are determined in one fraction of the soap, and the alkali by the incineration of another, I consider the following method is not unworthy of publication, because it appears to afford quicker and more correct results, by reason of the greater simplicity of the manipulation. It is available principally for soda soaps, which are the most common; but it may also be employed with corresponding alterations for soaps which have other bases.

A piece of soap weighing two or three grammes (31 to 46.5 grains), is dissolved in a tarred beaker glass of about 160 cubic centimetres (6 inches) capacity, with 80 to 100 cubic centimetres (3 to 3½ inches) of water, by heat, in a water-bath, and then three or four times the quantity of diluted sulphuric acid, or as much as is necessary to decompose the soap, added from a burette. When, after repeated agitation, the fatty acids have separated in a transparent clear stratum from the aqueous solution, it is allowed to cool, and then the contents of the beaker glass are placed in a moistened filter, which has been previously dried at 212° Fahr., and weighed. The contents of the filter are washed, until their acid reaction disappears. In the meanwhile, the beaker glass is placed in a steam-bath, so that, it being already dry, it may support the washed and partly-dried filter, which is laid on the mouth of the glass, as if it were in the funnel. The fatty acids soon pass through the paper, and for the most part flow ultimately to the bottom of the beaker glass, the increase of weight of which, after cooling, and the subtraction of the weight of the filter, gives the quantity of the fatty acids present in the soap. A second drying and weighing is not necessary, if on the cold sides of the interior of the glass no damp is to be observed, which is occasioned by a trace of water still present. If the quantity of oxide of iron added to marble the soap is considerable, it may be easily found by incinerating the filter, and determining the weight of the residue.

The fluid which runs from the fatty acids on the filter, which, with the washings, has been preserved in a sufficiently large beaker glass, is colored with tincture of litmus, and decomposed with a test-alkaline solution, until the blue color appears. The difference of the quantity of alkali required to neutralize the sulphuric acid, and the quantity of sulphuric acid used in the first instance, allows a calculation to be made as to the quantity of effective alkali in the soap, for example:—

23.86 grammes* of soap (partly cocoa-nut oil soap).
17.95 " fatty acids, with filter.
04.44 " filter.
13.51 " of hydrates of fatty acids, 56.62 per cent.

28.00 cubic centimetres of the diluted sulphuric acid applied for the decomposition of the soap, of which 100 cubic centimetres represent 2.982 grms. of carbonate of soda.

17.55 cubic centimetres of alkaline fluid, which were used for the saturation of the above acid, and of which 100 cubic centimetres saturate an equal quantity of that acid.

---

* 1 gr. = to 15½ grains.

10.45 cubic centimetres of the sulphuric acid necessary for the alkali contained in the soap, representing 0.1823 grms. of soda = 7.34 per cent.

A determination of the alkali as a sulphate afforded in another portion of soap 9.57 per cent. of soda, because the sulphate of soda and chloride of sodium present in the soap gave up their alkali.

The alkaline fluid applied by me was a saccharine solution of lime, which can be naturally replaced by a solution of soda, and must be, if the chloride of sodium and sulphate of soda mixed with the soap shall be determined in the following way :—

The fluid, again exactly neutralized with alkali, is evaporated to dryness, and the residue gently heated to redness. As in the above manipulation, the fluid was not heated to the boiling point, the original chloride of sodium and sulphate of soda are contained in the weighed residue, besides the soda of the soap and that which has been added with the sulphuric acid, forming sulphate of soda, and from the increase of weight, by a comparison of the equivalents of NaCl and NaO,SO_3, the quantity of the former may be decided. According to the equivalents which Kopp furnished in 1850, the increase of weight to the chloride of sodium is as 1 to 4.68. The original sulphate of soda must be lastly, found by the subtraction of the same salt formed plus the calculated chloride of sodium from the first heated residue.

In practice, it is seldom necessary to proceed with the determination of the chloride of sodium and sulphate of soda, except with stirred and cocoa-nut oil soaps; certainly less of the truth is seen, if, after the above determination of the fatty acids and the effective alkali, the absent percentage of water is introduced in the calculation than if the water is reckoned, which is never completely evolved from soap, even technically prepared at 302° Fahr., and another determination made of the fatty acids of alkali, *en bloc*, the fatty acids, or even the alkaline contents.

The method here given partakes of the usual imperfections—that the fatty acids, as well as the unsaponified soap, are equally estimated, and the mixed hydrate or carbonate of the alkali, as well as the combined alkali. The presence of the carbonate can be easily recognized by the foaming of the soap solution, upon the addition of the sulphuric acid. These imperfections, however, are of little importance.

It must be granted that the minutely correct determination of the constitution of soap must be always yielded up to those who are technically conversant with this department of chemistry, the estimation of free alkali and unchanged fat included in it, at least, by certain ages of the soap. Further, a considerable excess of one or another ingredient soon betrays itself by a corresponding departure from the soap, of the characteristic properties of a good product; a small excess can be judged sufficiently exact from the preparation of the alkali, which, supposing soda present, should not amount to more than 13 per cent. with a pure cocoa-nut oil soap, not less than 11.5 per cent. with a tallow soap; but with palm oil and mixed soaps, the one or the other limit approximates.

Dr. Buchner's Process.

Dr. Buchner gives a method by which the amount of hard soap in a specimen can be calculated from the amount of fatty acid obtained, when a given amount of the specimen is decomposed by a strong acid. The author makes use of a flask, the neck of which is graduated into cubic centimetres; into this flask, half full of water, he puts half an ounce of soap, and dissolves it. He then adds the acid, either commercial hydrochloric, or dilute sulphuric acid, and warms the mixture, whereupon the fatty acids are set free. He now puts sufficient water to allow him to read off the number of cubic centimetres the acids measure in the neck of the flask. The fatty acids, from different sources, differ a little in weight; but the author found that the average weight of a cubic centimetre is 93 grammes, which is near enough to the truth for ordinary practical purposes. As the acids are combined with $\frac{1}{16}$ glycerine, it is easy, knowing the weight of the acids, to calculate the weight of the fat used; and as, on the average, 100 lbs. of fat give 155 lbs. of good hard soap, the weight of the real soap can be calculated when the weight of the fat is known. These calculations may be made by the use of a table which the author has constructed, from which we extract the important parts. The results are not to be considered scientifically accurate, but are near enough to the truth for ordinary business purposes. The process requires only one weighing, is executed in a few minutes, and is so simple that it can be performed by a common workman.

I. Cubic centimetres of fat acids separated from half an ounce of soap.

II. Percentage of water, lye, glycerine, etc., in the specimen.

III. Percentage of good hard soap.

I.	II.	III.
½	97	3
5	69	31
6	63	37
7	57	43
8	51	49
9	44	56
10	38	62
11	32	68
12	26	74
13	20	80
14	13	87
15	7	93

R. Græger's Process.

Complaints of consumers in regard to the value of samples of soap, which, to the best of the manufacturer's knowledge, have been well prepared, are not uncommon. It is very probable that the usual explanation which is offered whenever a soap fails to fulfil the expectations of its consumer, viz., that it contains too much water, may be in too many cases correct; admitting this, and various other contingencies, which are of importance in deciding upon the value of a soap, there appears to be another obvious reason why different soaps, containing equal amounts of water, may still possess different degrees of efficiency.

It is evident, from the different equivalent weights of the various fatty acids, that the amount of caustic alkali taken up by them in the formation of soap must be of unlike magnitude.

If it be true that the detergent power of soap is entirely dependent upon the amount of alkali which it contains, of course, it follows that those soaps which contain the largest proportion of alkali, or, in other words, those containing a fatty acid, the equivalent weight of which is small, must be the most efficacious.

Since the differences between the equivalents of the common fatty acids are not large, these considerations are perhaps of little or no importance in so far as concerns the consumption of soap in household economy, the total amount used in a single family being but small. In a manufacturing establishment, however, where fifty or one hundred thousand pounds may be used in the course of one year, differences which cannot be deemed insignificant must exhibit themselves; for example, the equivalent weights of several soaps in common use are as follows:—

Oleic acid soap	3800.95
Palm oil soap	3588.85
Tallow soap	3300.95
Cocoa-nut oil soap	3065.45

Calculating from these weights how much of each of the other soaps would be required to replace 100 lbs. of tallow soap, the following quantities will be found.

Pounds.		Per cent.		
1151	oleic acid soap, *i. e.*,	15.1	more than	tallow soap.
1087	palm oil soap "	8.7	"	"
928	cocoa-nut oil soap	7.2	less "	"

Differences like these must certainly be of importance in practice, and could doubtless be detected by direct experiment, if any one would undertake a comparison of the various kinds of soap, a research which would not be easy, however.

SECTION XVI.

VARIOUS SUBSTANCES AND PROCESSES BELONGING TO THE PERFUMER'S TRADE.

CHAPTER CII.

SALTS.

Inexhaustible Salts for the Bottle.

Take—

Liquid ammonia, 2 lbs.
Essence of rosemary, ½ ounce.
" lavender, 1 ounce.
" bergamot, ¼ ounce.
" clove, 1 dr.

Mix the whole by shaking, and fill with this composition little bottles containing a porous, absorbing body. For translucid bottles use, instead of porous body, crystals of sulphate of soda.

The white salts called *English* consist in sesquicarbonate of ammonia, reduced to powder, and aromatized with certain essences, but these bottles quickly lose their perfume. To remedy this trouble, Mr. Allchin transforms the sesquicarbonate into monocarbonate; that he reduces into powder, and with which he fills bottles. The following is the formula of the mixture for filling the bottles:—

Oil of lavender, ½ dr.
Essence of musk, 8 grains.

Oil of bergamot, $\frac{1}{4}$ dr.
" clove, $\frac{1}{4}$ dr.
Essence of rose, 10 drops.
Oil of canella, $\frac{1}{4}$ dr.
Liquid ammonia, 1 qt.

Sel de Preston.

This salt is prepared with salt ammonia and lime recently slaked. Put this mixture into bottles, and add a few drops of essence of lavender and bergamot.

Eau de Luce.

Take—

Tincture of benzoin or balsam of Peru, 1 ounce.
Essence of lavender, 10 drops.
Amber oil, 5 drops.
Liquid ammonia, 1 ounce.

Savon à Detacher. (For Removing Grease Spots.)

Mix some very dry white soap with alcohol, and when the dissolution is complete, rub up with it the yellow of six eggs, gradually adding afterwards a little spirits of turpentine. When the paste is well kneaded, incorporate a sufficient quantity of Fuller's earth to give it consistency.

To use this composition, moisten with warm water the stained spot, and rub the savonette over it. With a fine brush or sponge, entirely rub out the lather by rubbing.

Eau à Detacher. (For the Removal of Grease Spots.)

Take—

Pure essence of turpentine, 8 ounces.
Alcohol at 40°, 1 ounce.
Ether, 1 ounce.

Mix, and shake together. To mask the odor of turpentine, add a little essence of lemon.

Eau à Detacher Parfumée.

Take—

Spirit at 40°, 3 qts.
White soap, 1 qt.
Gall, 1 qt.
Essence of lemon, 1 ounce.
" peppermint, 2 ounces.

Eau de Javelle Rectifiée.

This water is used both as a disinfectant, and for the removal of fruit and ink stains. It is prepared by saturating an aqueous solution of potash with chlorine gas.

Eau Camphrée.

Triturate camphor with *magnesia alba*, add by degrees water in sufficient quantity, and filter. The filtrate contains about two grains of camphor per ounce.

Mode of Bleaching Sponges.

Soak the sponge in cold water, which must be changed every two or three hours, and express each time all liquid from the sponge. Continue this operation five or six days; the sponge will then be soft, and in a proper condition to be bleached.

Should the sponge contain any white pearly matter, plunge it into a solution of 1 part hydrochloric acid, and 20 parts of water, and wash thoroughly with water.

The sponge is now put into a bath of sulphurous acid of specific gravity 1.024. After a week's saturation, soak in pure water for twenty-four hours; then perfume, and dry in the air.

CHAPTER CIII.

APPLICATION OF ORGANIC CHEMISTRY TO PERFUMERY—INTRODUCTION OF HYDROGEN INTO ESSENTIAL OILS—CHANGE OF ONE OIL INTO ANOTHER—ARTIFICIAL PREPARATION OF ODORS RESEMBLING THE FRAGRANCE OF FRUITS—ARTIFICIAL ESSENCE OF PINE-APPLE—PREPARATION OF ARTIFICIAL ESSENCE OF QUINCE—PREPARATION OF RUM—ETHER—ARTIFICIAL ODOR OF PEARS.

Application of Organic Chemistry to Perfumery.

CAHOUR'S excellent researches concerning the essential oil of *gaultheria procumbens*, which admit of so many applications in perfumery, have opened a new field in this branch of industry. The introduction of this oil among compound ethers must necessarily direct the attention of perfumers towards this important branch of compounds, the number of which is daily increasing by the labors of those who have applied themselves to organic chemistry. The striking similarity of the smell of these ethers to that of *fruit* had not escaped the observation of chemistry. However, it was reserved for practical men to discover by what choice and combinations it might be possible to imitate the scent of peculiar fruits to such a nicety, that makes it probable that the scent of the fruit is owing to a natural combination, identical to that produced by art, so much so as to enable the chemist to produce from fruits the said combination, provided he could have at his disposal a sufficient quantity to operate upon. The manufacture of artificial essential oils for the purpose of perfumery is, of course, a recent branch of industry; nevertheless, it has already fallen into the hands of several distillers, who produce a sufficient quantity to supply the trade. At the London exhibition, a great variety of these chemical perfumes were exposed, and some analyzed, by Dr. A. W. Hoffmann. He found the *pear oil* to be an alcoholic solution of pure *acetate of amyloxide.* He dissolves it with potash, by which free fusel oil was separated, and he determines the acetic acid on form of acetate of silver.

0.3080 grm. of silver salt = 0.1997 of silver.

The percentage of silver in acetate of silver is, according to—

Theory.	Experiment.
64.68	64.55

The *acetate of amyloxide*, which, according to the usual way of preparing it, represents ½ part of sulphuric acid, 1 part fusel oil, and 2 parts of acetate of potash, had a striking smell of fruit, but it acquired the pleasant flavor of the jargonelle pear only after having been diluted with six times its volume of spirit of wine.

Upon further inquiries, Dr. Hoffmann learned that considerable quantities of this oil were manufactured by some distillers, from fifteen to twenty pounds weekly, and sold to confectioners, who employ it to flavor pear drops, etc.

Besides the pear oil, he found also an *apple oil*, which is nothing but *valerianate of amyloxide.* Every one knows the unsupportable smell of rotten apples which fills the laboratory whilst making valerianic acid. By operating upon this raw distillate, produced with diluted potash, valerianic acid is removed, and an ether remains behind, which, diluted in five or six times its volume of spirit of wine, possesses the pleasant flavor of apples.

The essential oil of *pine-apple* is nothing else but the *butyrate of ethyloxide*, and the pleasant flavor is only attained by diluting the ether with alcohol. The *butyric ether* employed in Germany to flavor bad rum, is employed in England to flavor an acidulated drink, called *pine-apple ale.* For this purpose, they generally do not employ pure butyric acid, but a product obtained by saponification of butter, and subsequent distillation of the soap with concentrated sulphuric acid and alcohol, which products contain, besides butyric ether, other ethers, but nevertheless can be used for flavoring.

The sample analyzed by Hoffmann appeared to be pure butyric ether.

Decomposed with potash, and changed into silver salts, it gave—

0.4404 grm. of silver salt = 0.2437 grm. of silver.

The percentage of silver in the butyrate of silver is, according to—

Theory.	Experiment.
55.38	55.33

Cognac and grape oils are a combination of amyl, diluted with much alcohol; when acted upon with concentrated sulphuric acid, and the oil freed from alcohol by washing it with water, it gave amylsulphuric acid, which was identified by the analysis of the salt of baryta.

1.269 gram. of amylsulphate of baryta gave 0.5825 gram. of sulphate of baryta = 45.82 per cent. of sulphate of baryta.

It is curious to find here a body which, on account of its noxious smell, is removed carefully from spirituous liquors, to be applied under a different form, for the purpose of imparting to them a pleasant flavor.

We must also mention here the artificial oil of bitter almonds. When Mitscherlich, in 1834, discovered the nitrobenzol, he would not have dreamed that this product would be manufactured for the purpose of perfumery. It is true, that even at the time of the discovery of nitrobenzol, he pointed out the striking similarity of its smell to that of the oil of bitter almonds. However, at that time, the only known resources for obtaining this body were the compressed gases, and the distillation of benzoic acid, consequently, its extremely high price banished any idea of employing benzole as a substitute for oil of bitter almonds. However, in 1845, by means of coal tar, benzole was extracted in large quantities. This product is now manufactured in France and England on a large scale, and in the body of this book we have indicated how to manufacture it. There are, besides the above, several other artificial oils; they all, however, are more or less complicated.

The application of organic chemistry to perfumery is quite new. It is probable that the study of all the ethers or ethereal combinations already known, and of those which the ingenuity of the chemist is daily discovering, will enlarge the sphere of their practical application.

The capyl ethers, lately discovered by Bouis, are remarkable for their aromatic smells, and they promise a large harvest to the manufacturer of perfumes.

Introduction of Hydrogen into Essential Oils—Change of one Oil into another.

Mr. Zinin* and Kolbe† have experimented on the direct additions of hydrogen to organic compounds.

The latter digested a hot saturated solution of benzoic acid, and a little hydrochloric acid with sodium amalgam, and in this way obtained bitter almond oil, another oil which becomes a crystalline solid on cooling, and a volatile acid. When the action takes place in an alkaline solution, the changes are different. No bitter almond oil is obtained, nor the crystalline oil, but more of the new acid is formed, which Kolbe intends to investigate further.

Zinin's former researches on benzyle showed that benzyle might be connected with benzoin by the direct action of hydrogen. The author made a boiling solution of 1 part benzoin, and 3 or 4 parts alcohol of 75 per cent., and to this he added 1 part of strong alcohol, saturated by hydrochloric acid, and then half a part of finely granulated zinc was slowly introduced into the mixture. As soon as the violent reaction ceased, another half a part of the alcoholic solution of hydrochloric acid gas was added, and the tincture boiled down to a half. It was then poured off from the undissolved zinc and mixed with water, whereupon an oily body separated, which soon cooled into a crystalline mass, which was purified by re-crystallization from alcohol. It was then obtained in rhombic tables, which fused at 55°. This new body is more hydrogenated than benzoin; but the elementary analysis, the author says, presents unusual difficulties. By the action of nitric acid and of bromine, on this new body, other crystallizable bodies are formed.

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* Bull. de St. Petersburg, t. iii. p. 529.

† Annal. der Chem. und Pharm., bd. cxviii. § 122.

Bitter almond oil, dissolved in the alcoholic solution of hydrochloric acid, and boiled with zinc, forms a thick, oily body, which sticks to the sides of the flask, and, on cooling, becomes solid and resinous. It is freely soluble in ether, and from the solution part crystallizes out, the remainder separates as an oily mass, in which, after a time, other crystals form.

Artificial Preparation of Odors resembling the Fragrance of certain Fruits—Fusel Oil.

Fusel oil was first discovered by Scheele as one of the distillation products of the wort obtained from the fermentation of potatoes. It has been subsequently examined by Pelletier, Dumas, Cahours, and others. It is generally now termed the *hydrate of the oxide of amyl*, from amyl being supposed to be its base or radical, as cyanogen is regarded to be the radical of another series of compounds.

It passes over towards the termination of the distillation process in a white turbid fluid, which consists of a watery and alcoholic solution of the fusel oil. The crude oil, consisting of about one-half of its weight of alcohol and water, may be purified by being shaken with water, and redistilling with the previous addition of chloride of calcium. When the temperature of the contents of the retort reaches 296° F., pure fusel oil distils over.

Fusel oil is a colorless, oily fluid, which possesses at first not a disagreeable odor, but at last is very disgusting, producing oppression at the chest, and exciting cough. It has a sharp, hot taste, and burns with a white-blue flame. It boils at 296°, and at a temperature of —4°, becomes solid, and forms crystals. Its specific gravity = 0.8124. Its formula is $C_{10}H_{12}O_2$. On papers, it produces a greasy stain, which disappears by heat; exposed to the action of air, it acquires an acid reaction. Fusel oil is slightly soluble in water, to which it imparts its odor, soluble in all proportions in alcohol, ether, volatile and fixed oils, acetic acid. It dissolves phosphorus, sulphur, and iodine, without any apparent change. It mixes with caustic potash and soda. It rapidly absorbs hydrochloric acid with disengagement of heat. When mixed with concentrated sulphuric acid, the mixture becomes of a violet-red color, and *bisulphate of amyl-oxide* is formed. Nitric acid and chlorine decompose it. Distilled with phosphoric acid, a fluid oily combination of hydrogen and carbon results. By oxidation with bichromate of potash and sulphuric acid, fusel oil yields valerianic acid used in medicine, and *apple oil* employed as a flavoring ingredient.

Artificial Essence of Pine-apple.

This essence is butyric ether, more or less diluted with alcohol. To obtain it pure on a large scale, and economically, the following process is recommended:—

Dissolve 6 lbs. of sugar, and ½ an ounce of tartaric acid in 26 lbs. of boiling water. Let the solution stand for several days; add 8 ounces of putrid cheese, broken up; 3 lbs. of skimmed and curdled sour milk, and 3 lbs.

of levigated chalk. The mixture should be kept in a warm place, at a temperature of about 92°, and stirred daily, as long as gas is evolved, which is generally the case for five or six weeks.

The liquor thus obtained is mixed with an equal volume of cold water, and 8 lbs. of carbonate of soda, previously dissolved in water. It is then filtered from the precipitated carbonate of lime, and the filtrate is evaporated down to 10 pounds; when add 5½ pounds of sulphuric acid diluted with an equal weight of water. The butyric acid which separates on the surface of the liquid as a dark-colored oil, is to be removed, and the rest of the liquid distilled; the distillate is neutralized with carbonate of soda, and the butyric acid separated as before, with sulphuric acid.

The whole of the crude acid is to be rectified with the addition of an ounce of sulphuric acid to the pound. The distillate is saturated with fused chloride of calcium, and redistilled. The product is about 28 ounces of pure butyric acid.

To prepare the essence of pine-apple from this acid, proceed as follows:—

Mix by weight 3 ounces of butyric acid with 6 ounces of alcohol, and 2 ounces of sulphuric acid in a glass retort, submit the whole to a gentle distillation, until the fluid which passes over ceases to emit a fruitly odor. By treating the distillate with chloride of calcium, and by its redistillation the pure ether is obtained.

The boiling point of butyric ether is 238°. Its specific gravity = 0.904, and its formula $C_{12}H_{12}O_4 = C_4H_5O + C_8H_7O_3$.

The above process, discovered by Bensch, affords a remarkable exemplification of the extraordinary transformations that organic bodies undergo, in contact with ferment or by catalytic action. When cane sugar is treated with tartaric acid, especially under the influence of heat, it is converted into grape sugar; this grape sugar, in the presence of decomposing nitrogenous substances, such as cheese, is transformed, in the first instance, into lactic acid, which combines with the lime of the chalk. The acid of the lactate of lime thus produced, is, by the further influence of the ferment, changed into butyric acid. Hence, butyrate of lime is the final result of the catalytic action in the process we here have recommended.

Artificial Essence of Quince.

It has been believed for a long time that the peel of quinces contains *œnanthylate of ethyloxide.* Now, however, researches have led to the supposition that the odorous principle of quinces is derived from the ether of pelargonic acid. Mr. R. Wagner,* in his *Researches on the Action of Nitric Acid on Oil of Rue*, has found that, besides the fatty acids, which Gerhardt had already discovered, pelargonic acid is formed. This process may be advantageously employed for the preparation of crude *pelargonate of ethyloxide*, which, on account of its extremely agreeable odor, may be applied as a fruit essence equally with those prepared by Dœbereinher, Hoffmann, and Fehling. For the preparation of the liquid which can be named the essence of quince, oil of rue is treated with double its quantity of very diluted nitric acid, and the mixture heated until it begins to boil. After some time, two layers are to be observed in the liquid; the upper one is brownish, and the lower one consists of the products of the oxidation of oil of rue, and the excess of nitric acid. The lower layer is freed from the greater part of its nitric acid by evaporation in a chloride of zinc bath. The white flocks frequently found in the acid liquid, which are probably fatty acids, are separated by filtration. The filtrate is mixed with spirits, and long digested at a gentle heat, by which a fluid is formed, which has the agreeable odor of quince in the highest degree, and may be purified by distillation.

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* Journal für Praktische Chemie.

*Preparation of Rum Ether.**

Take—

Black oxide of manganese, 12 lbs.
Sulphuric acid, 12 lbs.
Alcohol, 26 lbs.
Strong acetic acid, 10 lbs.

The ether above prepared is an article of commerce in Austria, being the body to which rum owes its peculiar flavor.

Artificial Odor of Pears.

This is an alcoholic solution of *citrate of amyloxide*, and *acetate of ethyloxide*. For its preparation, take 1 lb. of glacial acetic acid; add it to 1 lb. of fusel oil (previously washed with soda and water, and distilled between 254 and 284°), and mix it with half a pound of sulphuric acid. The mixture is digested for some hours at a temperature of 254°. The acetate of amyloxide separates, particularly on the addition of some water. The crude acetate of amyloxide, obtained by separation and by distillation of the liquid to which the water has been added, is finally purified by being washed with soda and water. Fifteen ounces of acetate of amyloxide are dissolved with half an ounce of acetic ether, in 100 or 120 ounces of alcohol; this is the essence of pears used to flavor sugar or syrup.

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* Austrian Journal of Pharmacy.

CHAPTER CIV.

FLAVORING EXTRACTS.

If the word *flavor* had been used by the various authors who have written upon the subject, in the place of the word perfume, and the word *ether* in place of oil and essential oil, the dissemination of an erroneous idea would have been prevented. The word perfume, applied to pear, pine-apple oil, etc., implies, and the general remarks of the writers lead the reader to infer that these substances are used by perfumers, who not only do not, but cannot, use them in their trade, because these artificial essences, or ethers, when poured upon a handkerchief and held to the nose, act like chloroform, producing also serious irritation.

But for flavoring, these ethers are extensively used. We have indicated in the above chapter the principal, but those flavoring extracts sold in the trade are not artificial oils, but an ordinary preparation, of which we shall indicate some formulæ.

Essence of Pimento.

Take—

Pure rectified spirit of wine, 1 pint.
Essential oil of pimento or allspice, 1 ounce.

Essences of Bitter Almonds, Peach Kernels, Ratafia, Noyau.

Take—

Pure rectified spirit, 7 ounces.
Essential oil of bitter almonds, 1 ounce.

Essence of Angelica.

Take—

Angelica root, 1 lb.
Rectified spirit, 8 lbs.
Water, 16 lbs.

Digest, and distil six lbs.

Essence of Anis.

Take—

Pure spirit, 7 ounces.
Essential oil of anis, 1 ounce.

Essence of Cardamom.

Take—

Cardamom seeds, 5½ lbs.
Rectified spirit, 1 gallon.

Digest a fortnight; press, and filter.

Essence of Celery.

Take—

Celery seed, 7 ounces.
Rectified spirit, 1 pint.

Digest a fortnight; strain, and press.

Essence of Cloves.

Take—

Oil of cloves, 1 ounce.
Pure spirit, 8 ounces.

Essence of Cognac.

Take—

Pure rectified spirit, 18 ounces.
Brandy oil, 3 ounces.

Essence of Ginger.

Take—

Unbleached Jamaica ginger, 5 ounces.
Rectified spirit, 1 pint.

Digest a fortnight; strain, and filter.

Essence of Lemon.

Take—

Fresh oil of lemon, 1 ounce.
Pure rectified alcohol, 8 ounces.
Yellow rinds of lemons, $\frac{1}{2}$ ounce.

Digest forty-eight hours, and filter.

Essence of Nutmeg.

Take—

Essential oil of nutmeg, 1 ounce.
Pure spirit, 8 ounces.

Essence of Savory Spices.

Take—

Black pepper, 4 ounces.
Powdered turmeric, 3 drs.
Coriander seeds, 1½ dr.
Oil of pimento, 1½ dr.
" nutmegs, ½ dr.
" cloves, ½ dr.
" cassia, ½ dr.
" caraway, ½ dr.
Rectified spirit, 1 pint.

Digest a fortnight.

Essence of Vanilla.

Take—

Vanilla, 12 ounces.
Spirit of ambrette, 1 qt.
Cloves, ½ dr.
Grain musk, 7 grs.

Digest a fortnight.

Generally all the culinary flavorings can be prepared by dissolving 1 ounce of the essential oil in half a pint of pure rectified alcohol, or by digesting 4 to 6 ounces of the bruised plant in 1 pint of spirit. The few artificial essences of fruit in the market have been indicated in the above chapter. We shall not extend our remarks further, as the preparation of all kinds is done on the same principle.

CHAPTER CV.

CONCLUDING REMARKS.

The rapid stride of improvement in every branch of art at the present day, and the necessity which it induces of taking a lively interest in all fashionable, as well as beneficial changes, have created a spirit of competition among makers and venders, which has resulted in improving the quality of manufactured products, in reducing their price, and, to a great extent, extending their sale. Of all devices and arrangements, none tend so much to promote the sale of an article, as the happy design and tasty embellishment of its paraphernalia. A handsomely enveloped tablet of soap, with gorgeous trimmings, will be more likely to win a purchaser than the unpretending cover-tacking savonette, the sale of which depends solely upon its good quality; and the flagon of Cologne, or richly cut decanter of fragrant spirits, will be more attractive than the plain bottle, though the latter may be filled with contents of finer odor and of greater value. It is the eye that must first be pleased. If this be engaged, a customer is made who can always be retained, if the excellence of the article accords uniformly with the elegance of its outfit. On this, mainly depends the ultimate fortune of the perfumer. To a strict pursuance of this policy, we may attribute the large and extended trade in perfumery which Paris enjoys. The refined taste of the Parisians, the low price of their skilled labor, their ingenuity in design, and their neatness, as well as expertness of execution, contribute to make Paris the most advantageous of all places for the purchase of the finer kinds of furniture, trimmings, envelops, labels, and such like requisites for the packing-room of a perfumery. There are, however, presses in this country which issue the two last-named articles, approximating to the French in elegance and cheapness, and they deserve very liberal encouragement. Therefore, it is better, and I may say more patriotic, in these times, to limit the importation of articles to those only which cannot be produced here.

Great attention should be bestowed upon the manner of putting up the perfumery. Let it be done neatly and elegantly. A little additional trouble, in this respect, will be repaid by an increased, as well as more profitable sale. The delicate hands and tapering fingers of females are most adapted for such work, and this advantage, joined to their characteristic good taste, in embellishing and trimly arranging, makes their labor more appropriate than that of males; consequently, it should always be preferred.

The glassware can be had in this country, and in quality, price, elegance of shape, cut, or color, it rivals the best importation. The samples displayed by American manufacturers plainly indicate that this art has reached a very advanced stage, and as a proof that the efforts to which this condition of the art is owing do not lack encouragement, we need only refer to the success of our principal glass works.

The porcelain jars and pots are nowhere made in this country, and must necessarily be imported from abroad.

Here we conclude this work, which, in the hands of intelligent workmen, cannot but lead to success in pursuing any branch of the subject of which it treats.

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